Medical Students’
Guideto Research Mentors

DUKE
GRADUATE MEDICAL SCHOOL SINGAPORE
The purpose of this booklet is to provide information on the research opportunities available to Duke-NUS MD students, and to help them identify mentors for their research projects. This booklet includes all researchers who have been approved by the Research Curriculum Review Committee to Duke-NUS medical students during their research experience.

- NUS Personal Data Protection Privacy Statement -

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For more information, please see our NUS Personal Data Protection Privacy Statement at this link: http://www.nus.edu.sg/privacy on how we handle personal data.

Mentors and co-mentors approved by the Research Curriculum Review Committee after July 2014 are included in this booklet upon written consent of use of their information.

- Important notes on mentors and co-mentors -

**Approved Mentors** take primary responsibility of the mentee during his/her research experience.

**Approved Co-Mentors** take primary responsibility of the mentee during his/her research experience, but are expected to identify an approved Mentor who will oversee his/her mentoring of the mentee.

For a most up-to-date list of approved mentors and co-mentors, students may refer to the Duke-NUS Approved Mentors and Co-Mentors List available on the Learner’s Wiki. Alternatively, they may contact the research curriculum coordinator, Ms. Aberith Ho (Aberith.ho@duke-nus.edu.sg).
### Duke-NUS Approved Research Mentors

| 2. | Coffman, Thomas M.       | 49. | Je, Hyunsoo Shawn         |
| 3. | Casey, Patrick J.        | 50. | Kandiah, Nagaendran       |
| 4. | Albani, Salvatore        | 51. | Koh, Joyce Suang Bee      |
| 5. | Ang, Beng Ti Christopher | 52. | Koh, Woon Puay            |
| 6. | Augustine, George J.    | 53. | Krishnan, Manoj N.        |
| 8. | Barathi, Veluchamy A.   | 55. | Kumar, Prakash            |
| 9. | Bertolletti, Antonio     | 56. | Lam, Carolyn Su Ping      |
| 13. | Chan, Derrick Wei-Shih  | 60. | Lee, Shu Yen              |
| 15. | Chan, Ling Ling         | 62. | Lee, Yung Seng            |
| 16. | Chay, Oh Moh            | 63. | Leow, Melvin Khee Shing   |
| 17. | Cheah, Peh Yean         | 64. | Leung, Katy Ying Ying    |
| 18. | Chee, Michael           | 65. | Li, Jialiang              |
| 19. | Chen, William Wei Ning  | 66. | Li, Shang                 |
| 20. | Cheng, Ching-Yu         | 67. | Liao, Ping                |
| 21. | Cheung, Yin Bun         | 68. | Lim, Chwee Ming           |
| 22. | Chew, Fook Tim          | 69. | Lim, Darren Wan-Teck      |
| 23. | Chia, John Whay Kuang   | 70. | Lim, Kah Leong            |
| 24. | Chia, Shi Lu            | 71. | Lim, Soon Thye            |
| 25. | Choo, Su Pin            | 72. | Lim, Swee Han             |
| 26. | Chow, Pierce            | 73. | Ling, Khoon Lin           |
| 27. | Chowbay, Balram         | 74. | Lo, Yew Long              |
| 28. | Chua, Terrance Siang Jn| 75. | Loh, Thomas Kwok Seng     |
| 29. | Chuah, Charles          | 76. | Lok, Shee Mei             |
| 30. | Claridge-Chang, Adam    | 77. | Low, Jenny Guek Hong      |
| 31. | Compton, Scott          | 78. | Low, Kin Huat             |
| 32. | Cook, Stuart A.         | 79. | Malhotra, Rahul           |
| 33. | De Silva, Deidre Anne   | 80. | Matchar, David B.         |
| 34. | Devanand, Anantham     | 81. | Mehta, Jodhbir            |
| 35. | Dhanasekaran, Vijaykrishna | 82. | Ng, Quan Sing             |
| 36. | Finkelstein, Eric       | 83. | Ng, Wai Hoe               |
| 37. | Fong, Kok Yong         | 84. | Ng, Yee Sien              |
| 38. | Fung, Daniel Shuen Sheng | 85. | Ong, Eng Hock Marcus     |
| 39. | Gan, Yunn Hwen         | 86. | Ong, Sin Tong             |
| 40. | Goh, Cynthia           | 87. | Ooi, Eng Eong             |
| 41. | Goh, Yeow Tee          | 88. | Østbye, Truls             |
| 42. | Gooley, Joshua         | 89. | Pervaiz, Shazib           |
| 43. | Halliwell, Barry       | 90. | Pettersson, Sven          |
| 44. | Hsieh, Po Jang Brown   | 91. | Quah, Stella R.           |
| 45. | Hwang, William Ying Khee | 92. | Quek, Richard Hong Hui   |
| 46. | Itahana, Koji          | 93. | Rajadurai, Victor Samuel  |
| 47. | Iyer, N Gopalakrishna  | 94. | Rozen, Steve              |
| 95. | Sabanayagam, Charumathi | 96. | Sabapathy, Kanaga         |
| 97. | Sahlén, Anders Olof    | 98. | Saw, Seang Mei            |
| 99. | Sia, Alex Tiong Olof   | 100. | Silver, David L.          |
| 101. | Smith, Gavin J.        | 102. | Sng, Ban Leong            |
| 103. | Soo, Khee Chee         | 104. | St. John, Ashley L.       |
| 105. | Sung, Sharon Cohen     | 106. | Tai, Bee Choo             |
| 107. | Tai, E Shyong          | 108. | Tan, Bien Soo             |
| 109. | Tan, Ene Choo          | 110. | Tan, Eng King             |
| 111. | Tan, Hiang Khoon       | 112. | Tan, Iain Bee Huat        |
| 113. | Tan, Kok Hian          | 114. | Tan, Louis Chew-Seng      |
| 115. | Tan, Patrick           | 116. | Tan, Swee Yaw             |
| 117. | Tan, Thiam Chye        | 118. | Tang, Mark Boon Yang      |
| 119. | Tang, Phua Hwee        | 120. | Tay, Kiang Hiong          |
| 121. | Tay, Shian Chao Vincent| 122. | Teh, Bin Tean             |
| 123. | Tenen, Daniel          | 124. | Teo, Melissa Ching Ching  |
| 125. | Thumboo, Julian        | 126. | Toh, Han Chong            |
| 127. | Tong, Louis Hak Tien   | 128. | Vandongen, Antonius       |
| 129. | Vasudevan, Subhash     | 130. | Virshup, David            |
| 131. | Wang, Hongyan         | 132. | Wang-Casey, Mei           |
| 133. | Wong, Hee Kit          | 134. | Wong, Tien Yin            |
| 135. | Yen, Paul Michael      | 136. | Yeo, Cheo Lian            |
| 137. | Yeo, Khung Keong       | 138. | Yeoh, Allen Eng Juh       |
| 139. | Yong, Eu Leong         | 140. | Zhong, Liang              |
| 141. | Zhou, Juan Helen       | 142. | Zhou, Yichen Hui          |

### Duke-NUS Approved Research Co-Mentors

| 1. | Ang, Seng Bin           | 8. | Lee, Jan Hau              |
| 2. | Cheung, Carol Yin Lui   | 9. | Lek, Ngee                 |
| 3. | Chew, Kelvin Tai Loon   | 10. | Lie, Denny Tjiauw Tjoen   |
| 5. | Chow, Wan Cheng        | 12. | Yang, Yong                |
Approved Research Mentors
Krishnan, Ranga  MB ChB
*Not available for mentoring in AY2015-2017*

Dean, Duke-NUS Graduate Medical School Singapore
Professor, Programme in Neuroscience and Behavioural Disorders, Duke-NUS Graduate Medical School Singapore
Professor and Chairman, Department of Psychiatry and Behavioral Sciences, School of Medicine, Duke University
Adjunct Professor, Department of Psychiatry and Behavioral Sciences, School of Medicine, University of North Carolina at Chapel Hill

Contact: -
Email: ranga.krishnan@duke-nus.edu.sg
Website: -

Research Summary
Affective disorders, anxiety disorders, obsessive-compulsive disorders, psychopharmacology, geriatric depression.

Past and Current Duke-NUS Research Students
NA

Student Publications
NA
Coffman, Thomas M. MD
*Not available for mentoring in AY2015-2017*

Dean-Designate, Duke-NUS Graduate Medical School Singapore
Professor and Program Director, Programme in Cardiovascular and Metabolic Disorders,
Duke-NUS Graduate Medical School Singapore
James R. Clapp Professor of Medicine, Duke University Medical Center
Director, Cardiovascular Research Center, Duke School of Medicine

Contact: 6601 1069
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Website: -

Research Summary

Diabetic nephropathy, the role of the kidney in hypertension, prostanoids as mediators of hypertension and kidney injury.

Past and Current Duke-NUS Research Students

Maeda Momoe (Class of 2014)

Student Publications

NA
**Casey, Patrick J. PhD**  
*Not available for mentoring in AY2015-2017*

Senior Vice Dean, Research, Duke-NUS Graduate Medical School Singapore  
Professor, Programme in Cancer and Stem Cell Biology, Duke-NUS Graduate Medical School Singapore  
James B. Duke Professor of Pharmacology and Cancer Biology, Duke University Medical Center  
Professor of Biochemistry, Duke University Medical Center  

**Contact:** 6516 7251  
**Email:** patrick.casey@duke-nus.edu.sg  
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**Research Summary**

My lab focuses on the area of transmembrane signaling mediated through guanine nucleotide-binding regulatory proteins (G proteins). Many of these signaling pathways are involved in control of cell growth. There are two major areas of research ongoing in the lab. The first is the covalent modification of G proteins by isoprenoid lipids via a process termed prenylation, and in particular the impact of the processing on Ras family G proteins. Most of this work is now done in collaboration with the laboratory of Asst. Professor Mei Wang.

The second general area of research involves identification of the signaling pathways controlled by specific types of G proteins. We have linked members of one subfamily of G proteins, termed G12 proteins, to cellular processes of adhesion and migration via cell-surface cadherins and the Rho GTPase, and have obtained evidence that upregulation of expression of G12 proteins is important in metastatic progression of several types of cancer. Our current research focuses on determining the mechanism of this upregulation of G12 expression during cancer progression and in identify the signaling pathways that contribute to the ability of these proteins to drive aberrant cell growth and metastatic invasion.

**Past and Current Duke-NUS Research Students**

NA

**Student Publications**

NA
Albani, Salvatore  MD, PhD

Professor, Duke-NUS Graduate Medical School Singapore
Professor, SingHealth Duke-NUS Paediatrics Academic Clinical Programme
Director, SingHealth Translational Immunology and Inflammation Centre
Senior Clinical Scientist, KK Women’s and Children’s Hospital

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Research Summary

STIIC established as a joint initiative of SingHealth and Duke-NUS aims to catalyse the growth of multidimensional interdisciplinary professionals to prepare them for a wide range of careers focussed on improving human health. We aim to identify and bridge unmet needs of several clinically important conditions, a few wide ranging examples are tumour microenvironment, Rheumatological disease, heart failure etc. The research team and laboratory at STIIC has varied expertise in the field of Immunology, Inflammation and Bioinformatics. We have a workflow (Immunomics) that will be customised to a project’s needs and enable high throughput analysis of patient samples. Instruments that lend themselves to these analyses include CyTOF (for mass cytometry analysis) and Nanostring (for pathway analysis). We encourage students who train with us to be able to chose from various projects that are currently being undertaken at STIIC such that it can be aligned with their research interests. One of the potential projects that a student can expect to undertake within a timeframe of up to 10 months could be one that investigates immunological profiles and perturbations in the tissue micro environment. This is based on the premise that the peripheral blood could potentially reflect the immune populations that infiltrate tissue under various conditions. We seek to investigate this by deep immunophenotyping and barcoding cells to identify relevant biosignatures that would have a translational potential. Clinical samples could be from patients with Rheumatological disease, Tumour etc.

Past and Current Duke-NUS Research Students

Ang Chieh Hwee (Class of 2016)

Student Publications

NA
Ang, Beng Ti Christopher  
**MBBS, FRCSEd (Gen Surg), FRCSGlasg(Gen.Surg), FRCSEd (Neurosurgery), FAMS (Neurosurgery)**

Associate Professor, Duke-NUS Graduate Medical School Singapore  
Senior Consultant and Head, Department of Neurosurgery, National Neuroscience Institute (SGH Campus)

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Website: -

**Research Summary**

Our group has established a method of cryopreservation that facilitates the establishment of a brain tumor stem cell repository. We have isolated brain tumor stem cells from patient tumor samples, which are capable of re-creating tumor masses in mice. These implanted cells in the mouse brain eventually form tumors with morphology identical to that seen on pathological analysis of patient specimens. These tumor cells-of-origin display genetic profiles totally distinct from the tumor bulk. Importantly, different patients with similar tumor tissue pathology on microscopic examination display very different genetic profiles in their cells-of-origin, the cancer stem cells. This has major implications as current treatment strategies are largely decided based upon classification systems tailored according to morphological characteristics of the tumor. The different genetic profiles of such tumor stem cells might explain variability of treatment response and points to the existence of different genetic brain tumor subtypes which one is unable to discern based on current classification systems. As such, we now have a stable collection of such cells to enable investigative efforts in drug screening. Our lab is also engaged in deciphering chemoresistance mechanisms and in discovery of novel markers for identification of these cells.

**Past and Current Duke-NUS Research Students**

Vincent Tay (Class of 2011)

**Student Publications**

NA
Research Summary

One of the most striking features of the brain is the abundant synaptic connections between nerve cells. These connections allow very rapid signalling between nerve cells and serve as the fundamental mechanism for information processing and storage in the brain. Our laboratory is interested in the function of these synaptic connections and we are studying 3 important questions within this general area:

**Molecular basis of neurotransmitter release from neurons**

The rapid secretion of chemical signals (neurotransmitters) serves as the basis for communication between neurons. We are identifying the proteins that are involved in the synaptic vesicle trafficking reactions underlying neurotransmitter secretion, with particular emphasis on proteins involved in exocytosis and endocytosis. Our current research is largely focussed on the functions of synapsins, a family of proteins whose functions include cross-linking vesicles into a “reserve pool”. The questions we are pursuing include: (1) Why are there so many different synapsin isoforms? and (2) What unique functions do these isoforms serve at different types of synapses?

**Signal transduction pathways underlying long-lasting synaptic plasticity**

Synaptic signaling is “plastic”, meaning that communication between neurons can get stronger or weaker depending on the previous history of neuronal activity. Such plastic changes in synaptic transmission are thought to be important for dynamic changes in brain function and, in particular, may serve as the basis for memory. We are studying one such form of synaptic plasticity, termed cerebellar long-term synaptic depression (LTD). The questions we are tackling include: (1) What are the signals that initiate LTD? and (2) How does neuronal gene expression change to make LTD permanent?

**Optogenetic mapping of brain circuit**

Synaptic circuits between neurons form the “wiring” that allows the brain to process information. Optogenetics has revolutionized our ability to elucidate the function of these circuits: with light-activated ion channels, such as channelrhodopsins, we can photostimulate genetically-defined populations of neurons. Likewise, genetically-encoded fluorescent sensors, such as Clomeleon, allow us to detect the resulting responses in postsynaptic neurons. Together, these optogenetic technologies create tremendous opportunities for understanding how the brain works and for determining how brain circuitry goes awry during various neurological and psychiatric diseases. The questions we are addressing are: (1) What is the function of a specific brain circuit? and (2) What is the spatial organization of this circuit? We currently are focusing on circuits in the cerebellum, somatosensory cortex, claustrum, hippocampus, and thalamus.

In these projects, our lab employs a wide range of techniques including electrophysiology, molecular biology, optical microscopy, computational approaches, and optogenetics.

In these projects, our lab employs a wide range of techniques including electrophysiology, molecular biology, optical microscopy, computational approaches, and optogenetics.

**Past and Current Duke-NUS Research Students**

NA

**Student Publications**

NA
Aung, Tin MBBS(S’pore), FRCS(Ed), FRCOphth(UK), MMed(Ophth), FAMS, PhD(Lond)

Academic Vice Chair (Research), Ophthalmology & Visual Sciences Academic Clinical Program (ACP), SingHealth-Duke-NUS Graduate School of Medicine
Joint Professor, Duke-NUS Graduate Medical School Singapore
Executive Director, Singapore Eye Research Institute;
Deputy Medical Director (Research), Singapore National Eye Centre;
Senior Consultant and Head, Glaucoma Dept, Singapore National Eye Centre;
Professor, Dept of Ophthalmology, Yong Loo Lin School of Medicine, National University of Singapore

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Website: -

Research Summary

Professor Aung is Director of the Singapore Eye Research Institute, with his main research interests being angle closure glaucoma and the molecular genetics of eye diseases. With >350 publications, Prof Aung has been awarded >US$15 million in competitive research grant funding. He has received numerous awards including the Singapore Translational Research (STaR) Investigator Award in 2014, the NMRC-Clinician Scientist Awards in 2005 and 2008, the President’s Science Award in 2009, the Nakajima (2007) and De Campo Awards (2013) from the Asia Pacific Academy of Ophthalmology and the Alcon Research Institute Award in 2013.

Prof Aung is a member of the Editorial Boards of Ophthalmology, Journal of Glaucoma, Eye, Graefe’s Archive for Clinical and Experimental Ophthalmology, and 6 other journals. He also serves as a member of the Board of Governors of the World Glaucoma Association and a Board member of the Asia-Pacific Glaucoma Society and the Asian Angle Closure Glaucoma Club.

Past and Current Duke-NUS Research Students
Foo Li Lian (Class of 2012)
He Yingke (Class of 2013)
Wei Xin (Class of 2014)
Png Ziyun Owen (Class of 2016)

Student Publications
Barathi, Veluchamy A. PhD

Adjunct Assistant Professor, Programme in Neuroscience and Behavioral Disorders, Duke-NUS Graduate Medical School Singapore

Senior Research Scientist and Head, Ocular Disease Model Research Platform, Singapore Eye Research Institute

Adjunct Assistant Professor, Department of Ophthalmology, Yong Loo Lin School of Medicine, National University of Singapore

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Website: ResearchGate Profile

Research Summary

- Animal models of Ocular Diseases and Eye growth patterns
- Myopia, Glaucoma, Diabetic Retinopathy and AMD
- Retina and scleral biology in biochemistry, molecular and pharmacological aspect
- Molecular characterization of anti-muscarinic therapy for myopia using specific muscarinic receptor knockout mouse model
- The investigation of transglutaminase-2 function in the development of experimental myopia in mouse
- Rabbit model of corneal wound healing

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Bertoletti, Antonio MD

Professor, Programme in Emerging Infectious Diseases, Duke-NUS Graduate Medical School Singapore
Principle Investigator, Singapore Institute for Clinical Sciences, A*STAR

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Website: Google Scholar Profile

Research Summary

Hepatitis B virus (HBV) infection is a preferential "Asian affair"; of the 350 million people suffering from chronic HBV infection worldwide, approximately 75% are in Asia. Research in my laboratory focuses on understanding the role of T cells in HBV pathogenesis and on developing immune therapeutic strategies for treating chronic HBV infection. Different methodological approaches (high dimensional flow cytometry, gene expression profile, laser microdissection) are utilized to analyze the HBV-specific T cell repertoire and the function of HBV-specific CD8 T cells in different clinical conditions. We are particularly interested to redefine the function of T cells in the liver environment and understand the molecular mechanisms responsible for T cell exhaustion. In addition, the laboratory is actively developing strategies to restore HBV-specific immunity in chronic HBV patients or to increase the bioavailability of cytokines/drugs into infected hepatocytes. Selection of virus-specific CD8 T cells from patients allows isolation of their T cell receptors that are then used to engineer TCR-directed T cells for T cell immunotherapy.

Past and Current Duke-NUS Research Students

Karen Nadua (Class of 2011)
Lin Huixin Sarah (Class of 2013)

Student Publications


Beuerman, Roger W.  PhD

Adjunct Professor, Programme in Neuroscience and Behavioral Disorders, Duke-NUS Graduate Medical School Singapore

Senior Scientific Director, Singapore Eye Research Institute

Adjunct Professor, Department of Ophthalmology, Yong Loo Lin School of Medicine, National University of Singapore

Adjunct Professor, School of Chemical and Biomedical Engineering, Nanyang Technological University

Contact: -
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Website: ResearchGate Profile

Research Summary

Development of novel antimicrobials for use in ophthalmology, proteomic studies revealing biomarkers of eye disease, and myopia.

Past and Current Duke-NUS Research Students

Soon Chian Myau (Class of 2012)

Student Publications

NA
Bian, Jinsong  MBBS, PhD

Associate Professor, Department of Pharmacology, Yong Loo Lin School of Medicine, National University of Singapore

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Website: -

Research Summary

Dr. Bian conducts basic and translational research with a focus on identifying new therapeutic targets for treatment of cardiovascular diseases. His research interests include the biological functions of endogenous biological gases (e.g. H2S and NO) and molecular regulation of HERG K+ channels and Na+/K+ ATPase. Specifically, he is interested in studying the cell signal transduction pathways responsible for the cardioprotection induced by ischemia or pharmacological pre- or post-conditioning and identifying the involvement of new endogenous mediators, triggers and protein kinases. Regulation of ion channel function plays a pivotal role in cardiac myocyte excitability. Hormones and endogenous mediators are involved in determining channel responses to changing cardiovascular demands. By using state-of-the-art techniques, Dr. Bian also investigate how hormones regulate HERG potassium channel expression, trafficking and function in the physiological and pathological situations. Dr. Bian has received over S$3 M funding support and published over 40 papers in the leading journals in the past five years.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Chan, Angelique PhD

Associate Professor, Programme in Health Services and Systems Research, Duke-NUS Graduate Medical School Singapore

Associate Professor, Department of Sociology, Faculty of Arts and Social Sciences, National University of Singapore

Director, Tsao Foundation Ageing Research Initiative, Department of Sociology, Faculty of Arts and Social Sciences, National University of Singapore

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Website: ResearchGate Profile

Research Summary

• Aging and Demography
• Program impact evaluation
• Health of older persons

Past and Current Duke-NUS Research Students

Pakiam Jillian Ann (Class of 2015)

Student Publications

NA
Chan, Derrick Wei-Shih  
BMBS (UK), B Med Sci (UK), MRCPCH (UK), MCI, CSCN

Adjunct Assistant Professor, Duke-NUS Graduate Medical School Singapore
Senior Consultant and Head, Department of Paediatrics (Neurology Service), KK Women's and Children's Hospital

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Website: -

Research Summary

Dr Chan conducts clinical research on children with epilepsy with a focus on epidemiology, clinical presentation and semiology, neurophysiology and therapeutics. He also has an interest in biomechanics and the role of technology in seizure monitoring. His recent work extends the epidemiological data on paediatric epilepsy in Singapore and computer vision in seizure detection. He is working to develop the role of computer vision in epilepsy, anticonvulsant dosing regimens and developing educational materials in teaching of caregivers of children with epilepsy.

Past and Current Duke-NUS Research Students

Huang Junjie Chester (Class of 2015)
Maya Nakamura (Class of 2016)

Student Publications

NA
Chan, Jerry Kok Yen  MB, BCh, BaO (Hons), MA, MRCOG(UK), FRCOG(UK), PhD, FAMS

Associate Professor, Program in Cancer and Stem Cell Biology, Duke-NUS Graduate Medical School Singapore
Senior Consultant, Department of Reproductive Medicine, KK Women's and Children's Hospital
Research Director, KK Research Centre
Adjunct Associate Professor, Principal Investigator - Experimental Fetal Medicine Group, Yong Loo Lin School of Medicine, National University of Singapore
Honorary Associate Professor, University of Queensland Centre for Clinical Research, University of Queensland, Australia

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Website: Google Scholar Profile

Research Summary

Dr Chan is a Clinician-Scientist working in the field of Reproductive Medicine encompassing a broad area of research. His laboratory focuses on the discovery and characterization of perinatal stem cells, and developing them for both fetal and post-natal transplantation strategies. His lab is also developing a stem cell model for the study of endometriosis in the field of reproductive medicine. He is currently the Research Director at KK Women’s and Children's Hospital, and have mentored 15 PhD students, 5 post-doctoral fellows, 16 other bachelor degree and research attachment students, amassing a total of 102 peer reviewed journal papers, 9 book chapters, 64 awards, 38 published abstracts and 5 patents.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Chan, Ling Ling MBBS, FRCR, FAMS

Adjunct Associate Professor, Programme in Neuroscience and Behavioral Disorders, Duke-NUS Graduate Medical School Singapore
Senior Consultant, Department of Diagnostic Radiology, Singapore General Hospital

Contact: -
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Website: -

Research Summary

The main thrust of Dr Chan’s research involves the application of advanced MRI and CT techniques, including MR spectroscopy and MRI diffusion tensor imaging to evaluate neurological diseases and their clinical progression. Two of her key projects include the use of MRI diffusion tensor imaging (DTI) and MR tractography to evaluate white matter tracts in patients with gait problems, and long term case control prospective DTI study to identify potential radiologic marker of clinical progression in Parkinson’s disease.

Her group has previously demonstrated in a large, prospective, case control study that the FA value in the substantia nigra on DTI was lower in PD compared with healthy controls, and correlated inversely with the clinical severity of PD. They are currently conducting longitudinal studies to assess the clinical utility of serial FA measurements of the substantia nigra in objective quantification of disease progression and monitoring of the therapeutic response.

Past and Current Duke-NUS Research Students

Ng Kia Min (Class of 2014)
Tan Wen Qi (Class of 2015)

Student Publications

Chay, Oh Moh  MBBS, M Med (Paeds), FAMS, FRCPCH (UK), FAMS

Senior Consultant, Department of Paediatrics (Respiratory Medicine Service), KK Women’s and Children’s Hospital
Campus Director, Education, KK Women’s and Children’s Hospital

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Website: -

Research Summary

Research focus on respiratory disorder particularly on Childhood Asthma. Past research include clinical trials, respiratory infection and obstructive sleep apnoea.

Current has oversight of a database on Bronchial Asthma with about 4000 patients. My focus will be to leverage on the outcome of these patients to further enhance the care of children with high disease burden asthma and to better utilise limited resources.

Other research interest include environmental health issues and impact of post natal depression on wheezing.

Will be also focusing on educational research especially in area of inter professional education, interpersonal skill and communications

Past and Current Duke-NUS Research Students

Wang Hao (Class of 2014; Co-Mentor)

Student Publications

NA
Cheah, Peh Yean PhD

Adjunct Associate Professor, Duke-NUS Graduate Medical School Singapore
Senior Scientist and Co-Director, Colorectal Cancer Research Laboratory, Department of Colorectal Surgery, Singapore General Hospital
Adjunct Associate Professor, Saw Swee Hock School of Public Health, National University of Singapore

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Website: Google Scholar Profile

Research Summary

Dr Cheah conducts translational research on colorectal cancer (CRC) with a focus on genomics. Her recent work has entailed the discovery of new tumor suppressors for APC mutation-negative familial CRC syndromes via high-density genotyping arrays; potential biomarkers for early-onset non-syndromic CRC patients as well as early stage CRC via genome-wide expression profiling. Her laboratory completed a genome-wide association study (GWAS) to search for susceptibility loci associated with differential response to environmental insults in Chinese sporadic colorectal carcinomas. Dr. Cheah has been a PI on over 10 NMRC//BMRC, SingHealth and Singapore Cancer Society grants, and she has authored over 40 papers and 3 book chapters.

Past and Current Duke-NUS Research Students

Tan Si Yun Melinda (Class of 2012)

Student Publications

NA
Chee, Michael MBBS (S’pore), FRCP(UK), FAMS

Professor, Programme in Neuroscience and Behavioural Disorders, Duke-NUS Graduate Medical School Singapore

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Research Summary

My lab studies cognition in the context of sleep deprivation and healthy cognitive aging. The common thread linking these seemingly unrelated themes is the goal of furthering human cognitive performance through an understanding of the mechanisms that underlie performance degradation in these settings.

Sleep Deprivation

My lab has contributed to a better understanding of the neural correlates of cognitive alterations associated with short-term total sleep deprivation (TSD) on healthy young adults. Using a combination of behavioral tests, EEG and functional magnetic resonance imaging (fMRI), we have probed the mechanisms underlying reduced attention and processing capacity as well as changes to decision making and valuation. We have probed the imaging correlates of inter-individual variation in performance when volunteers are under sleep deprived. We seek to extend this work to partial sleep deprivation and to evaluate the benefits of sleep extension on cognition and human health.

Healthy Brain Aging

The goal of studying the healthy aging brain is to characterize the extent to which modifiable risk factors result in either positive or deleterious effects on brain morphology and function. The lab has a cohort of around 350 healthy elderly (age 55-85 years) of Chinese ethnicity who have been followed up for 4 years. We are currently into wave 3 of a longitudinal study and are collecting structural MR, DTI and resting state data. In wave 4 we will examine sleep structure, quality and how this affects cognition and brain structure. Additionally, we will evaluate risky decision-making in elderly persons and how this compares with young adults in the local cultural milieu.

Past and Current Duke-NUS Research Students

Ong Shi Wei (Class of 2014)

Student Publications

NA
Chen, William Wei Ning  PhD

Professor, School of Chemical and Biomedical Engineering, Nanyang Technological University

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Email: wnchen@ntu.edu.sg
Website:

Research Summary

Professor Chen’s research is highly inter-disciplinary with a strong focus on cellular bioengineering platforms for pharmaceutical and environmental applications. His current research is in the area of metabolic and microbial engineering toward production of valuable chemicals including biofuels, as well as environmental engineering for resource recovery and sustainable food production. His research in converting food waste to high value food ingredients using microbial engineering was covered in a recent episode of Future Forward by Channel News Asia (Jan 2015), in which he also shared his views on sustainable food supply.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Cheng, Ching-Yu  MD, MPH, PhD

Associate Professor, Academic Medicine Research Institute, Duke-NUS Graduate Medical School Singapore
Senior Clinician Scientist, Singapore Eye Research Institute
Head, Ocular Epidemiology Research Group and Statistics Unit, Singapore Eye Research Institute

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Website: Google Scholar Profile

Research Summary

A/Prof Cheng directs the Singapore Epidemiology of Eye Diseases (SEED) Program, a large multi-disciplinary research program focusing on epidemiology, imaging and genetics on eye diseases. The SEED Program has built up one of the largest epidemiological and genetic databases (n>10,000) for eye diseases in the world. He takes the leading role in several major international eye genetics consortia, such as the Genetics of AMD in Asians (GAMA) Consortium, International Glaucoma Genetics (IGGC) Consortium, Consortium for Refractive Error And Myopia (CREAM), and Cohorts for Heart and Aging Research in Genomic Epidemiology (CHARGE)- Eye Consortium. The collaborative work has led to several high-impact publications in leading genetic journals, including Nature Genetics and American Journal of Human Genetics. He is the PI of more than $2.5 million in grant funding from the NMRC and A*STAR in Singapore and has authored >140 papers. He is an awardee of the prestigious NMRC Clinician Scientist Award.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Cheung, Yin Bun PhD

Professor, Center for Quantitative Medicine, Duke-NUS Graduate Medical School Singapore
Adjunct Professor of International Health, University of Tampere, Finland

Contact: 6576 7379
Email: yinbun.cheung@duke-nus.edu.sg
Website: -

Research Summary

Prof Cheung is a paediatric epidemiologist and biostatistician. He studies maternal and child health, statistical methodology in nutrition and infection research, and patient-reported outcomes. His recent work includes the studies of child growth and child development, statistical models for estimation of vaccine efficacy and immunogenicity, and quality of life in cancer patients. Prof Cheung has been a principal investigator on 5 NMRC grants, and has authored over 200 scientific publications.

Past and Current Duke-NUS Research Students

Swati Jain (Class of 2014)
Quek Jia Ling Jovina (Class of 2016)

Student Publications

NA
Chew, Fook Tim  PhD

Associate Professor, Department of Biological Sciences, National University of Singapore
Vice Dean, Undergraduate Studies and Student Life, Faculty of Science, National University of Singapore

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Website: -

Research Summary

Our group is interested in understanding the underlying basis of allergic diseases. We are currently taking a large scale genetic epidemiological approach to uncover the potential pathways and interactions influencing the pathogenesis and development of these complex diseases. This includes large-scale genome wide association studies, functional candidate gene evaluations, gene-gene (epistasis) and gene-environment studies. Candidates involved in this work will be exposed to large scale cross sectional epidemiological studies, followed by clinical and laboratory based evaluation of some of the underlying candidate genes in relation to disease phenotypes and presentations. The current focus is to further characterize the potential influence of gene-splicing, large scale methylation, miRNA influence as well as differential expression of the candidate genes as influenced by the allele specific backgrounds of individuals affected by the disease of interest.

Past and Current Duke-NUS Research Students

Rachel Fok Yu Ting (Class of 2012)

Student Publications

NA
Chia, John Whay Kuang  MBBS, MRCP (UK), FAMS  
(Medical Oncology)

Senior Consultant, Department of Medical Oncology, National Cancer Centre Singapore
Adjunct Assistant Professor, Department of Medicine, National University of Singapore

Contact: 6436 8177
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Website: -

Research Summary

Dr Chia's major interest has been to advance the field of cancer therapeutics through clinical trials and he is actively involved in numerous Phase I, II and III investigator-initiated clinical studies. He holds several clinical research grants and has published research papers in the fields of inflammation, immunotherapy and gynecological cancers.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Chia, Shi Lu  MBBS, DFDC (CAW), FRCS (Surg), FRCS (Ortho & Trauma), DIC, PhD

Adjunct Assistant Professor, Duke-NUS Graduate Medical School Singapore
Deputy Head (Research) & Senior Consultant, Department of Orthopaedic Surgery, Singapore General Hospital
Clinical Lecturer, Yong Loo Lin School of Medicine, National University of Singapore

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Website: -

Research Summary

His current research interests include arthritis, cartilage biology, cartilage tissue engineering and artificial joint design.

Past and Current Duke-NUS Research Students

Zhou Zhihong (Class of 2013)
Zhu Meng (Class of 2015)

Student Publications


Choo, Su Pin  *MBBS, MRCP(UK), FAMS*

Senior Consultant and Chief of Gastrointestinal Oncology, Division of Medical Oncology, National Cancer Centre Singapore

Deputy Head, Clinical Trials and Epidemiological Sciences, National Cancer Centre Singapore

Adjunct Principal Investigator, SingHealth Investigational Medicine Unit

Adjunct Assistant Professor, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 6436 8197

Email: choosupin@nccs.com.sg

Website: ResearchGate Profile

**Research Summary**

My main area of clinical specialization is in gastrointestinal cancers which span solid tumours from the oesophagus, stomach, intestines to anus and from the hepatobiliary system. I am actively involved in running clinical trials for these cancers with particular interest in hepatocellular carcinoma and gastric cancers. Some of my trials are investigator-initiated studies that were borne from pre-clinical work done by my collaborators. I also have a special interest in Phase I trials combining novel therapies in all cancers and I run the Early Clinical Research Unit in National Cancer Centre Singapore (NCCS). I also oversee the gastrointestinal clinical database which collects data on colorectal, gastric and pancreatic cancer patients seen in NCCS.

**Past and Current Duke-NUS Research Students**

NA

**Student Publications**

NA
Chow, Pierce  MBBS, MMed (Surg), FRCSE, FAMS (Gen Surg), PhD

Professor, Duke-NUS Graduate Medical School Singapore
Senior Consultant Surgeon, Surgical Oncology, National Cancer Centre Singapore
Senior Consultant Surgeon, HPB and Transplant Surgery, Singapore General Hospital
Senior Clinician Scientist, National Medical Research Council, Singapore

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Website: ResearchGate Profile

Research Summary

Translational research and clinical trials in hepatocellular carcinoma and steato-hepatitis. The genomics of hepatocellular carcinoma and applications to personalized medicine. Outcomes research in hepato-pancreato-biliary cancers.


Past and Current Duke-NUS Research Students

Chia Ghim Song (Class of 2011)  Zhu Guili (Class of 2014)
Lim Miao Shan (Class of 2011)  Chia Yun Ling Caroline (Class of 2016)
Lim Kheng Choon (Class of 2011)  Chin Fu Wen, Kenneth (Class of 2016; Co-Mentor)
Andrew Khor Yu Keat (Class of 2014)  Yang Jiajing Edwin (Class of 2016; Co-Mentor)

Student Publications


Chowbay, Balram PhD

Adjunct Professor, Office of Clinical Sciences, Duke-NUS Graduate Medical School
Singapore

Director, SingHealth Clinical Pharmacology Laboratory, Academia

Principal Clinical Pharmacologist, Laboratory of Clinical Pharmacology, National Cancer Centre Singapore

Adjunct Professor, School of Chemical and Biological Engineering, Nanyang Technological University

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Website: Google Scholar Profile

Research Summary

My research areas are in the applications of pharmacokinetics (PK) and pharmacodynamics (PD) principles in the optimisation of drug dosages as well as application of pharmacogenetic tools to explain variabilities in the PK/PD of therapeutic agents. I have a special interest in studying the pharmacogenetics of genes involved in expressions of drug metabolising enzymes, drug transporters and drug targets in different Asian ethnic groups.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Chua, Terrance Siang Jin  MBBS, MRCP(UK), M Med (Int Med), FRCP(Lond), FAMS, FRCPE, FACC(USA)

Adjunct Professor, Duke-NUS Graduate Medical School Singapore
Academic Chair, SingHealth Duke-NUS Cardiovascular Academic Clinical Program
Medical Director and Senior Consultant, Department of Cardiology, National Heart Centre Singapore
Deputy Group Director, Medical, SingHealth

Contact: 6436 7518
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Website: -

Research Summary
Dr Chua's main interests are in cardiac imaging, (particularly nuclear cardiology and cardiac CT), and the epidemiology of myocardial infarction and coronary artery disease. He is involved in supporting the work of the Singapore Cardiac Data Bank, a national database of major cardiac procedures and conditions (such as coronary angioplasty, bypass surgery, heart failure) in all public hospitals that has been collecting data since 2000.

Past and Current Duke-NUS Research Students
Ignasius Aditya Jappar (Class of 2012)  Tan Xian-li Olivia (Class of 2015)
Rachel Ng Qiao Ming (Class of 2013)  Goh Jian Min, Jasmine (Class of 2016)
Tay Yu Ling (Class of 2014)  Tan Shih Jia, Janice (Class of 2016; Co-Mentor)
Apurva Thanju (Class of 2014)

Student Publications
Chuah, Charles MB, ChB (UK), FRCP (Edin), MMed (Int Med), M.D. (London)

Assistant Professor, Programme in Cancer and Stem Cell Biology, Duke-NUS Graduate Medical School Singapore
Senior Consultant, Department of Haematology, Singapore General Hospital
Clinical Senior Lecturer, Yong Loo Lin School of Medicine, National University of Singapore
Director, Molecular Laboratory, Department of Haematology, SGH
Director, Myeloproliferative Disorders/Chronic Myeloid Leukaemia Program, Department of Haematology, SGH
Director, Department of Clinical Research, Singapore General Hospital
Director, Junior Clinician-Scientist/Clinician Researcher Program, Academic Clinical Program for Medicine, SingHealth-Duke-NUS

Contact: 6321 4855
Email: charleschuah@duke-nus.edu.sg
Website: -

Research Summary

Dr Chuah was awarded the National Medical Research Council Clinician Scientist Award in 2007 and 2010. He is currently holding research grants from A*STAR/BMRC and SingHealth Foundation and is a principal investigator in nineteen multi-centre clinical trials. He has authored or co-authored more than thirty six publications in peer-reviewed scientific journals including Nature, Nature Medicine, Nature Genetics, New England Journal of Medicine, PNAS, Blood, Leukemia and Journal of Clinical Oncology. Dr Chuah is a member of the Scientific Review Panel of the NMRC. He is in the editorial board for Annals Academy of Medicine, Singapore and is a reviewer for the Singapore Medical Journal, Cancer Letters, International Journal of Hematology, Leukemia, Leukemia Research and Annals of the Academy of Medicine, Singapore. His research interests include mechanisms of resistance and targeted therapy in chronic myeloid leukaemia.

Past and Current Duke-NUS Research Students

Cao Jinyi (Class of 2016)

Student Publications

NA
Claridge-Chang, Adam PhD

Assistant Professor, Programme in Neuroscience and Behavioural Disorders, Duke-NUS Graduate Medical School Singapore
Principal Investigator, Institute of Molecular and Cell Biology, A*STAR

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Website: http://www.claridgechang.net/

Research Summary

Work in the Claridge-Chang laboratory is aimed at understanding cognitive and emotional behaviors using the Drosophila melanogaster model system, elucidating the neurogenetic mechanisms that underlie aversive olfactory learning and defensive behaviors. We develop and apply a range of genetic, physiological and behavioral methods to understand how locomotion and other actions play a role in the learning process.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Research Summary

My research has primarily focused on clinical and educational issues related to palliative and end-of-life care provided in emergency medicine settings.

- Development and evaluation of educational methods for promoting emergency physicians’ end-of-life communication skills in time-limited, acute-care settings.
- Assessment of the effect witnessing failed resuscitations on the bereavement outcomes of family members of cardiac arrest patients.
- Determinants of cardiac arrest outcomes.

Past and Current Duke-NUS Research Students

Sanchez Daniel John Gutierrez (Class of 2016; Co-Mentor)

Student Publications

NA
Cook, Stuart A. MBBS, MRCP, PhD

Professor, Programme in Cardiovascular and Metabolic Disorders, Duke-NUS Graduate Medical School Singapore
Senior Consultant, National Heart Centre Singapore
Professor of Clinical and Molecular Cardiology, Imperial College
Associate Director and Genetics Theme Lead, Brompton and Harefield Biomedical Research Unit

Contact: 6601 2584
Email: stuart.cook@ duke-nus.edu.sg
Website:

Research Summary

My group, in collaboration with world-leading laboratories, has developed and applied unbiased, integrated systems genetics and genomics approaches combined with high-resolution cardiovascular phenotyping to identify new genes and mechanisms for cardiac hypertrophy and dysfunction. To date, my discovery-based research has been largely carried out in genetically tractable rat and mouse systems with translational to human tissues and cohorts as a central dogma, which has proved highly successful. In addition, the group has used genome-wide association (GWAS) in humans to identify new loci and genes for dilated cardiomyopathy (DCM), the commonest indication for heart transplantation.

With the maturation of next generation sequencing technologies I have developed dedicated informatics, databases and statistical genetics to uncover new insights into heart failure biology. These advances are enabling a greater emphasis on discovery and diagnostics-based research in humans that can now be performed in cohorts of patients with inherited cardiac diseases and ischemic heart failure and control subjects phenotyped using cardiac MRI that I have assembled. These cohorts will be interrogated using targeted resequencing, whole exome sequencing and whole genome sequencing in combination with conventional GWAS with bedside-to-bench translation for mechanistic studies. While these approaches are in their early stages we have already identified Titin as the commonest genetic cause of DCM, which increases the clinical diagnostic yield of DCM by up to 100%.

Past and Current Duke-NUS Research Students

Mervin Goh Feng Ji (Class of 2015)
Dypti Lulla (Class of 2016)

Student Publications

NA
De Silva, Deidre Anne  *MBBS, MRCP(UK), FAMS*  
*(Neurology)*

Associate Professor, Duke-NUS Graduate Medical School Singapore  
Director (Clinical Research/SGH), SingHealth Duke-NUS Neuroscience Academic Clinical Programme  
Senior Consultant, Department of Neurology, National Neuroscience Institute (SGH Campus)  
Clinical Tutor, National University of Singapore

**Contact:** 6326 5003  
**Email:** gnrdsd@sgh.com.sg  
**Website:** -

**Research Summary**

Dr De Silva is a neurologist who conducts clinical and translational research in stroke. Her areas of research interests include the Asian pattern of stroke, intracranial large artery disease, small cerebral artery disease, acute reperfusion treatment, advanced stroke imaging, novel vascular risk factors such as aortic stiffening, and retinal microvascular changes in stroke. Dr De Silva has been awarded the 4 National Medical Research Council administered grants as Principal Investigator. She is leading one of the 3 themes of the NNI stroke programme project grant entitled “The big and small of brain blood vessels: Downstream effect of large artery disease on the cerebral vasculature”. She has first authored more than 45 peer-reviewed publications.

**Past and Current Duke-NUS Research Students**

Eunizar Omar (Class of 2011)  
Chua Jia Hui (Class of 2013)  
Melissa Tan Si Hui (Class of 2014)

**Student Publications**


Devanand, Anantham  MBBS, MRCP (UK), AKC (Lond), FAMS

Assistant Professor, Duke-NUS Graduate Medical School Singapore
Senior Consultant, Department of Respiratory and Critical Care Medicine, Singapore General Hospital
Associate Program Director, Singhealth Internal Medicine Residency

Contact: 6321 4700
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Website: -

Research Summary

Dr Devanand’s main research interest is in diagnostic thoracic endoscopy. There are three major projects that are currently underway. An endoscopy database captures comprehensive data on all procedures to facilitate evaluation of diagnostic yield, complication rates, technical issues and patient satisfaction. Navigational bronchoscopy has been acquired through a HSDP grant to provide a ‘GPS’ system to help endoscopists locate peripheral lung lesions that are not visible in the bronchi. We hope to define the sensitivity of this technology. Duke-NUS has also provided support for a fibred confocal microscopy project. This technology provides in vivo cellular level imaging of the lung parenchyma and is being evaluated in a pilot project to map an atlas of interstitial lung disease. In addition, Dr Devanand is working with Allergy Center and the SGH COPD service on the acquisition of bronchial thermoplasty and bronchoscopic lung volume reduction respectively.

Past and Current Duke-NUS Research Students

Meng Peng (Class of 2016)

Student Publications

NA
Dhanasekaran, Vijaykrishna *PhD*

Assistant Professor, Programme in Emerging Infectious Diseases, Duke-NUS Graduate Medical School Singapore

Joint Assistant Professor, Department of Microbiology, Yong Loo Lin School of Medicine, National University of Singapore

Visiting Scientist, Department of Pathology, Singapore General Hospital, SingHealth

Visiting Scientist, World Health Organization Collaborating Centre for Reference and Research on Influenza, Melbourne, Australia

**Contact:** 6601 1261

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**Website:** Google Scholar Profile

Research Summary

Our research lies in the intersection of biomedicine, epidemiology and evolutionary molecular sequence analysis to understand the factors that *regulate the evolution and diversity of pathogens and pathogen communities*. We especially focus on the integration of pathogen sequence data with clinical, epidemiological and immunological data that are routinely generated through large-scale disease surveillance of infectious pathogens using phylogeny (evolutionary tree)-based methods in order to improve disease control.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Finkelstein, Eric A. PhD, MHA

Director, Lien Centre for Palliative Care, Duke-NUS Graduate Medical School Singapore

Professor, Programme in Health Services and Systems Research, Duke-NUS Graduate Medical School Singapore

Contact: 6516 2338

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Website: Google Scholar Profile

Research Summary

Eric A. Finkelstein, Ph.D., M.H.A. is the Executive Director for the Lien Centre for Palliative Care. He is also Professor in the Signature Research Program in Health Services and Systems Research at the Duke-National University of Singapore Graduate Medical School and Research Professor at Duke University Global Health Institute. He received his BA in Mathematics/Economics from the University of Michigan, and a Ph.D. in economics and Masters in Health Administration from the University of Washington.

Over the past fifteen years Professor Finkelstein has established himself as a leading international health economist doing research in the economics of health behaviors. His research focuses on end of life issues, economic incentives, behavioral economics, the economics of obesity, discrete choice analysis, program evaluation, and cost effectiveness analyses. He has published over 130 peer-reviewed manuscripts, 2 books, and several book chapters in these areas. He also has experience as a Principal or Co-Investigator on research projects funded by the U.S. National Institutes of Health, the U.S. Centers for Disease Control and Prevention, the Robert Wood Johnson Foundation, the Singapore Ministry of Health, and many private sector organizations. His research has been showcased in the Economist, Wall Street Journal, New York Times and other television, print, and media outlets throughout the world.

Past and Current Duke-NUS Research Students

Saideep Bose (Class of 2012)
Wang Hao (Class of 2014)
Chen Pin Yu (Class of 2015; Co-Mentor)
Andalib Hossain (Class of 2016)

Student Publications


Fong, Kok Yong  MBBS (S'pore), M Med (Int Med), FAMS (Rheumatology), FRCP (Edin)

Professor, Duke-NUS Graduate Medical School Singapore
Chairman, Medical Board, Singapore General Hospital
Senior Consultant, Department of Rheumatology and Immunology, Singapore General Hospital
Adjunct Professor, Yong Loo Lin School of Medicine, National University of Singapore

Contact: -
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Website: -

Research Summary
NA

Past and Current Duke-NUS Research Students
Tan Tze Chin (Class of 2011)
Huang Youyi (Class of 2016)

Student Publications
NA
Fung, Daniel Shuen Sheng  *MBBS, MMed*  
*(Psychiatry), FAMS*

Adjunct Associate Professor, Programme in Neuroscience and Behavioral Disorders, Duke NUS Graduate Medical School Singapore  
Chairman, Medical Board, Institute of Mental Health  
Senior Consultant, Department of Child and Adolescent Psychiatry, Institute of Mental Health  
Adjunct Associate Professor, Yong Loo Lin School of Medicine, National University of Singapore  
Adjunct Associate Professor, Lee Kong Chian School of Medicine, Nanyang Technological University

**Contact:** 6389 3646  
**Email:** daniel_fung@imh.com.sg  
**Website:** Google Scholar Profile

**Research Summary**

Dr Fung conducts clinical research on disruptive behaviour disorders (E.g. Attention Deficit Hyperactivity Disorder) and emotional disorders (E.g. Anxiety disorders). His recent work involves a randomized controlled trial of fatty acids supplementation and social skills training for children and adolescents with disruptive behaviour disorders. His current interests include serious games and new media interventions for psychiatric disorders in children and adolescents.

**Past and Current Duke-NUS Research Students**

Lim Wei Shyan (Class of 2012)  
Pavaani Thiagayson (Class of 2013)  
Kwok Li Ping Sharon (Class of 2015)

**Student Publications**

Gan, Yunn Hwen PhD

Associate Professor, Department of Biochemistry, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 6516 3678
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Website: ResearchGate Profile

Research Summary

Research in Dr Gan’s laboratory focuses on host pathogen interactions, host susceptibility factors to infectious diseases and the immune responses to bacterial pathogens. The main pathogen under study is *Burkholderia pseudomallei*, a Gram-negative bacterium endemic in Singapore, rest of Southeast Asia and Northern Australia. The team is internationally recognized as one of the leaders in melioidosis research, having discovered various virulence pathways in the bacteria and established the susceptibility factors which predispose diabetics to the disease. The team is also examining mechanisms underlying diabetic susceptibility to *Klebsiella pneumoniae* in causing liver abscesses and the design of novel immunotherapeutics against multi-drug resistant bacterium *Acinetobacter baumannii*.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Goh, Cynthia  MBBS, PhD, FAMS, FRCP

Associate Professor, SingHealth Duke-NUS Oncology Academic Clinical Programme
Deputy Chairperson, Lien Centre for Palliative Care, Duke-NUS Graduate Medical School
Senior Consultant, Division of Palliative Medicine, National Cancer Centre Singapore

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Website: -

Research Summary
Dr Cynthia Goh conducts clinical research into treatments for pain, other symptoms and quality of life of patients near the end of their lives at the Division of Palliative Medicine, National Cancer Centre Singapore. She also leads a team that does health services research, looking into how Singaporeans wish to be cared for at the end of their lives, and the influence ethnicity and religion has on this.

Past and Current Duke-NUS Research Students
NA

Student Publications
NA
Goh, Yeow Tee  

**MMed (Int Med)**

Adjunct Associate Professor, Duke-NUS Graduate Medical School Singapore  
Senior Consultant, Department of Haematology, Singapore General Hospital  
Acting Chairman, Division of Research, Singapore General Hospital  
Clinical Senior Lecturer, National University of Singapore

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*Email:* goh.yeow.tee@sgh.com.sg  
*Website:*

**Research Summary**

A/Prof Goh's specializes in translational research involving hematologic malignancies (notably in Chronic Myeloid Leukemia, Multiple Myeloma and Lymphoma), with focus on the use of novel agents, anti-infectives and supporting therapies. His research interest also includes conditioning regimens, immuno-reconstitution and cell processing in hematopoietic stem cell transplantation. In recent years, A/Prof Goh has also ventured into immunotherapy research for hematologic malignancies, focusing primarily in the role of memory and regulatory T cells and augmentation of cytotoxic T-cell response. A/Prof Goh is a prolific clinical researcher, who is the PI and Co-I in over 63 clinical trials to date. Among which, he is the overall PI in an investigator-initiated regional phase 2 trial involving a novel combination of 2 drugs for the treatment of Peripheral or NK/T cell Lymphoma. A/Prof Goh is also the PI and recipients of grants from NMRC (Overall-Lead PI; Centre Grant), A*Star and SCS.

**Past and Current Duke-NUS Research Students**

Yap Kok Chong Bernard (Class of 2016)  
See Kee Yon Lionel (Class of 2016; Co-Mentor)

**Student Publications**

NA
Gooley, Joshua J.  PhD

Assistant Professor, Programme in Neuroscience and Behavioural Disorders, Duke-NUS Graduate Medical School Singapore
Assistant Professor, Department of Physiology, National University of Singapore
Lecturer in Medicine, Division of Sleep Medicine, Harvard Medical School
Adjunct Senior Lecturer, School of Psychological Sciences, Monash University

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Website: -

Research Summary

Our laboratory focuses on understanding the role of circadian rhythms and sleep in regulating human physiology and performance. We study the effects of light on circadian, endocrine, and alerting responses. In other studies, my team is examining the interaction of circadian rhythms and homeostatic sleep pressure on cognition and metabolism. The long-term goal of this research is to develop countermeasures for fatigue, and to develop new approaches for treating or diagnosing circadian rhythm sleep disorders.

Non-visual photoreception
In addition to their role in image-forming vision, retinal photoreceptors mediate non-visual light responses including entrainment of circadian rhythms, regulation of melatonin, and the pupillary light reflex. Our group is carrying out studies to characterize the relative contributions of rod-cone photoreceptors and melanopsin cells to non-visual light responses. As part of this work, we are exploring whether changes in environmental lighting can promote higher levels of vigilance during shift work. Additionally, we are conducting collaborative work with colleagues at the Singapore Eye Research Institute to evaluate non-visual light responses in patients with different types of ocular diseases.

Role of sleep and circadian rhythms in human physiology
Daily patterns of behaviour and physiology are regulated by the circadian system and the sleep homeostat. We study the interaction of these processes on neurobehavioural performance and metabolic function. Our team is developing approaches for monitoring and predicting cognitive vulnerability to sleep deprivation and circadian misalignment. We are also interested in the link between circadian disruption and metabolic dysfunction. We are therefore exploring the effects of time of day and sleep loss on regulation of lipids, which is relevant for shift workers who are at higher risk for metabolic disorders.

Past and Current Duke-NUS Research Students
Tan Shu Hui Sara (Class of 2013)
Zhou Yi (Class of 2015; Co-Mentor)

Student Publications


Halliwell, Barry  BA,  D.Phil., D.Sc

Tan Chin Tuan Centennial Professor, Department of Biochemistry, Yong Loo Lin School of Medicine, National University Singapore.
Senior Advisor to the President, National University Singapore

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Website: http://www.med.nus.edu.sg/bch/bchbh.htm

Research Summary

Prof Barry Halliwell is known especially for his seminal work on the role of free radicals and antioxidants in biological systems. Current research projects include the use of a *C. elegans* model to study ageing and age-related diseases, studying the role of free radicals in neurodegeneration, developing markers of oxidative injury in stroke and the study of the physiological role of ergothioneine, a putative fungal-derived dietary antioxidant.

The Thomson Reuters lists Prof Halliwell as one of the world’s most highly-cited researchers in Agricultural Sciences, Biology & Biochemistry and Pharmacology. His book *Free Radicals in Biology and Medicine* published by Oxford University Press, and now in its fifth edition, is regarded worldwide as an authoritative text in the field. His laboratory is also ranked number 1 worldwide by highest citation score in Free Radical Research.

Past and Current Duke-NUS Research Students

Fong Sheng (Class of 2015)

Student Publications


4. Gruber J, Chen CB, **Fong S**, Ng LF, Teo JW, Halliwell B. *Caenorhabditis elegans*, what we can and cannot learn from ageing worms? *Antioxid Redox Signal*. 2015 June.
Hsieh, Po-Jang Brown  PhD
Assistant Professor, Programme in Neuroscience and Behavioral Disorders, Duke-NUS Graduate Medical School Singapore

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Website:

Research Summary

I am interested in understanding how the human brain is able to perceive and experience the world. In particular, our lab studies the human neural bases of perception, attention, and consciousness with functional brain imaging (fMRI), neural decoding methods, and psychophysical techniques.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Hwang, William Ying Khee  MBBS, M Med (Int Med), MRCP (UK), FAMS, FRCP (London)

Associate Professor, Programme in Cancer and Stem Cell Biology, Duke-NUS Graduate Medical School Singapore
Head and Senior Consultant, Department of Haematology, Singapore General Hospital
Medical and Laboratory Director, Singapore Cord Blood Bank
Director, Hematopoietic Stem Cell Transplant Programme, Singapore General Hospital
Director, SingHealth Transplant
President, Singapore Society of Haematology
President, World Marrow Donor Association

Contact: 6321 4855
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Website:

Research Summary

Dr Hwang conducts clinical and laboratory research on hematopoietic stem cells and their use in clinical transplantation. He is Director of the Hematopoietic Stem Cell Transplant Programme in the Singapore General Hospital and also runs the Hematopoietic Stem Cell laboratory at Duke-NUS. He has been actively publishing on the outcomes of hematopoietic stem cell transplantation from the perspective of the transplant centre as well as donor registries as cord blood banks. Together with two post-doctoral research scientists in his laboratory, he has been exploring ways to effectively expand hematopoietic stem cells for clinical transplantation. Dr Hwang has secured over $2 million in funding and authored over 70 papers in journals like Cell Stem Cell, Journal of Clinical Oncology, Leukemia, Cytotherapy, Biology of Blood and Marrow Transplantation, Bone Marrow Transplantation, Methods, American Journal of Hematology and many more.

Past and Current Duke-NUS Research Students

Ong Li Ming (Class of 2011)
Anne Wong Ann May (Class of 2011)

Student Publications


Itahana, Koji  PhD

Assistant Professor, Programme in Cancer & Stem Cell Biology, Duke-NUS Graduate Medical School Singapore

Contact: 6516 2554
Email: koji.itahana@duke-nus.edu.sg
Website: ResearchGate Profile

Research Summary

Dr. Itahana conducts extensive research on apoptotic cell death and mitochondrial metabolism to understand the underlying mechanisms of resistance of cancer cells to apoptosis induced by chemotherapy and radiotherapy. Using proteomics approach and gene expression array approach, his group has identified several key molecules involved in crosstalk between mitochondria and major tumor suppressor proteins, ARF and p53, both of which induce apoptosis and impact on mitochondrial metabolism. These include novel binding partners of either p53 or ARF, and transcriptional targets of p53. Third-year medical students will study one of these proteins and investigate whether these proteins are involved in ARF- or p53-mediated metabolic changes and apoptosis. If the results from these in vitro studies are promising, using cancer patient samples, the student will study the expression levels and mutation status of these proteins and their relationship with prognosis of patients by collaborating with clinicians at SGH, NCC, and NUH.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Iyer, N Gopalakrishna  
**MBBS (Hons), PhD**  
*(Cambridge), FRCSEd, FAMS*

Adjunct Assistant Professor, Programme in Cancer & Stem Cell Biology, Duke-NUS Graduate Medical School Singapore  
Senior Consultant, Department of Surgical Oncology, National Cancer Centre, Singapore  
Principal Investigator, Cancer Therapeutics Research Laboratory, National Cancer Centre, Singapore

Contact: 6436 8294  
Email: Gopaliyer@nccs.com.sg  
Website: -

**Research Summary**

Dr Iyer conducts clinical and translational research on individualizing treatment in patients with head and neck cancers. His current work involves the use of high-throughput technology including expression microarray and next-generation sequencing to identify potential biomarkers that correlate with prognosis and outcome in patients with head and neck squamous cell cancers. He is also interested in the identification of novel pathways and compounds to target cancer cells in various in vitro models including cancer stem cells. He is also involved in several clinical projects including coordinating the translational science efforts of an international phase 3 trial which determines the role of EGFR inhibitors in head and neck cancer.

**Past and Current Duke-NUS Research Students**

Chen Sixian (Class of 2014)  
Nguyen Thien Khanh (Class of 2014)

**Student Publications**

Jafar, Tazeen Hasan  MBBS, MPH, FNKF

Professor, Programme in Health Services and Systems Research, Duke-NUS Graduate Medical School Singapore

Contact: 6601 2582
Email: tazeen.jafar@duke-nus.edu.sg
Website: -

Research Summary

Dr Jafar conducts epidemiological research and population based trials on chronic non-communicable disease (NCD) with a focus on hypertension, kidney disease and associated risk factors. Dr Jafar has led and participated in several NIH funded studies including meta-analysis of individual patient data on ACE inhibitors in non-diabetic kidney disease, and analysis of national survey data. Her recent work has entailed the evaluation of strategies for control of hypertension in low income communities with home health education and physician training, as well as risk factors associated with NCDs. She will be working with physicians in the polyclinics on strategies to enhance cardiovascular health among patients with hypertension and additional risk factors in Singapore. She also has an extensive global health research agenda. She has published in high impact journals and serves on many editorial boards.

Past and Current Duke-NUS Research Students

Seow Yuan Bin Dominique (Class of 2015)

Student Publications

Je, Hyunsoo Shawn  PhD

Assistant Professor, Program in Neuroscience and Behavioral Disorders, Duke-NUS Graduate Medical School Singapore

Adjunct Assistant Professor, Department of Physiology, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 6601 1260
Email: shawn.je@duke-nus.edu.sg
Website: Google Scholar Profile

Research Summary

Synapses are fundamental units of neuronal connectivity in the brain. Our laboratory investigates synapse for principles of learning and memory, for processes underlying animal behaviours, and for pathological mechanisms of various neurological and psychiatric disorders including autism, schizophrenia, and Alzheimer’s disease. There are three major aspects of research in our laboratory – 1) the role of BDNF/TrkB signalling in animal behavior, 2) the molecular and cellular mechanisms underlying autism and schizophrenia, and 3) cutting-edge molecular and genetic tools for neuroscience research.

Selected publications since 2010:


Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Kandiah, Nagaendran  MBBS, MRCP (UK), FAMS  
(Neurology)

Assistant Professor, Duke-NUS Graduate Medical School Singapore  
Senior Consultant, Department of Neurology, National Neuroscience Institute (SGH Campus)

Contact: 6357 7171  
Email: Nagaendran_Kandiah@nni.com.sg  
Website:  

Research Summary

Dr Kandiah is actively involved in cognitive neurology research. His main research interests include mild cognitive impairment, vascular dementia and Parkinson’s Disease dementia. His research projects involve cognitive psychometrics, neuroimaging, genetics and other biomarkers for dementia. He currently holds 3 national grants from NMRC and Singhealth Foundation. Ongoing projects include a study investigating the longitudinal correlation of MRI to cognitive performance among patients with early Parkinson’s disease and another evaluating the longitudinal cognitive and neuroimaging evolution of acute cerebral infarcts. He has numerous publications in this field and is a reviewer for several peer reviewed journals.

Past and Current Duke-NUS Research Students

Poh Yen Yeong (Class of 2015)  
Zhang Yuan Helen (Class of 2015; Co-Mentor)

Student Publications

NA
Koh, Joyce Suang Bee  MBBS, FRCS (Edin), FRCS(Orth), FAMS

Adjunct Assistant Professor, Duke-NUS Graduate Medical School Singapore
Senior Consultant, Department of Orthopaedic Surgery, Singapore General Hospital
Clinical Teacher, Yong Loo Lin School of Medicine, National University Singapore

Contact: 6321 4045
Email: joyce.koh.s.b@sgh.com.sg
Website: -

Research Summary

My research specialization is in the field of orthopaedic trauma. I am involved in a wide range of projects from biomechanical and anatomical research (with a special interest in implant design and analysis) to multinational clinical trials involving current and novel treatments in my area of clinical specialization.

Past and Current Duke-NUS Research Students

Andrew Chou Chia Chen (Class of 2015)

Student Publications

NA
Koh, Woon Puay  MBBS, PhD

Professor, Duke-NUS Graduate Medical School Singapore
Professor, Saw Swee Hock School of Public Health, National University of Singapore

Contact: 6601 3147
Email: woonpuay.koh@duke-nus.edu.sg
Website: -

Research Summary

Koh Woon-Puay is an epidemiologist and the site-principal investigator in the Singapore Chinese Health Study, an NIH-funded, 63,000-strong cohort of middle-aged and elderly Chinese Singaporeans established for the long-term study of dietary and other environmental determinants of chronic diseases common among Singaporeans. For the past few years, together with local and overseas co-investigators, Dr Koh has examined potential disease-protective dietary factors that are consumed especially among Chinese in Singapore, and has co-authored over 160 scientific papers in peer-reviewed international journals, including several noteworthy and novel scientific contributions of reports on diet, lifestyle and genes in relation to cancer risk in leading international conferences and top cancer journals. Dr Koh is also a co-investigator in population-based studies that investigate diet, lifestyle and genetic factors as determinants of mammographic densities and in the etiology of cardiovascular disease, diabetes mellitus and osteoporotic hip fractures.

Past and Current Duke-NUS Research Students

See Kee Yon, Lionel (Class of 2016)

Student Publications

NA
Krishnan, Manoj  PhD

Assistant Professor, Programme in Emerging Infectious Diseases, Duke-NUS Graduate Medical School

Contact: 6516 2666
Email: manoj.krishnan@duke-nus.edu.sg
Website: -

Research Summary

My laboratory broadly studies virus-host interactions, and the regulation of innate immunity and inflammatory signaling pathways. A particular focus of our research is to define the role of ubiquitin ligases in host response to viral infection, and inflammation. We are also actively engaged in discovering small molecule modulators of the ubiquitin ligases regulating immune and inflammatory pathways as potential drug candidates to control infection, inflammation and autoimmune diseases.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Kuan, Win Sen  MBBS, MRCSEd (A&E), MCI, FAMS

Assistant Professor, Centre for Quantitative Medicine, Duke-NUS Graduate Medical School Singapore
Consultant, Emergency Medicine Department, National University Health System, Singapore
Assistant Professor, Department of Surgery, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 6772 2452
Email: win_sen_kuan@nuhs.edu.sg
Website: -

Research Summary

- Sepsis
- Respiratory diseases
- Cardiovascular biomarkers

Past and Current Duke-NUS Research Students

Swati Jain (Class of 2014; Co-Mentor)
Koh Yiwen (Class of 2016)

Student Publications

NA
Kumar, Prakash  MBBS (Malaysia), M Med (Int Med) (Malaysia), MRCP (UK), FAMS (Neurology), FRCP (Edin), FRCP (Glasg)

Associate Professor, Duke-NUS Graduate Medical School Singapore
Senior Consultant, Department of Neurology, National Neuroscience Institute (SGH Campus)
Program Director, Neurology Senior Residency, SingHealth
Clinical Senior Lecturer, Yong Loo Lin School of Medicine, National University Singapore

Contact: 6326 5003
Email: prakash.kumar@sgh.com.sg
Website: -

Research Summary

Assoc Prof Kumar’s areas of clinical and research interest include motor and non-motor problems in Parkinson’s disease and other movement disorders, Deep Brain Stimulation programming as well as Clinical Neurophysiology. He has published extensively in these areas.

Past and Current Duke-NUS Research Students

Lim Jing Wei (Class of 2012; Co-Mentor)

Student Publications

NA
Lam, Carolyn Su Ping  *MBBS, MRCP, MS, FACC, FESC*

Associate Professor, Programme in Cardiovascular and Metabolic Disorders, Duke-NUS Graduate Medical School Singapore
Senior Consultant, Department of Cardiology, National Heart Centre Singapore
Chairperson of Asia Pacific Association of Women’s Cardiovascular Disease

Contact: -  
Email: carolyn_lam@nuhs.edu.sg  
Website: -

**Research Summary**

Dr Lam’s research is focused on heart failure, especially the syndrome of heart failure with preserved ejection fraction, as well as sex differences in cardiovascular disease, hemodynamics, echocardiography, biomarkers and clinical trials.

**Past and Current Duke-NUS Research Students**

Michelle Chan Mei-Yi (Class of 2014)

**Student Publications**


Lee, Caroline Guat Lay  PhD

Associate Professor, Programme in Cancer and Stem Cell Biology, Duke-NUS Graduate Medical School Singapore

Associate Professor, Department of Biochemistry, Yong Loo Lin School of Medicine, National University of Singapore

Principal Investigator, Laboratory of Liver Cancer Functional Genomics, National Cancer Centre

Contact: 6516 3251
Email: caroline.lee@duke-nus.edu.sg
Website: -

Research Summary

Our laboratory focus on utilizing computational, genetical, molecular and cellular biological tools to elucidate the molecular and cellular pathways that may lead to the carcinogenesis process as well as to understand genetic variations that may account for differences in our response to drugs as well as susceptibility to complex diseases including cancer. Current ongoing projects include:

1) Cancer Functional Genomics  
2) Population Genetics / Pharmacogenetics

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Lee, Haur Yueh MBBS, MRCP(UK), MMed (Int Med), FAMS (Dermatology)

Adjunct Assistant Professor, Duke-NUS Graduate Medical School Singapore
Consultant and Head, Department of Dermatology, Singapore General Hospital
Clinical Senior Lecturer, Yong Loo Lin School of Medicine, National University Singapore

Contact: 6326 6866
Email: lee.haur.yueh@sgh.com.sg
Website: -

Research Summary

Dr Lee has an interest in severe cutaneous adverse drug reactions, autoimmune blistering conditions and medical dermatology. His main research focuses on the epidemiology, biomarkers and interventional studies for severe adverse reactions such as Stevens-Johnson syndrome/Toxic epidermal necrolysis and DRESS syndromes (Drug reaction, eosinophilia, systemic signs). There are active collaborations with other research partners in A*Star and our unit is part of a regional study group (SEA-SCAR; South-east Asian Severe cutaneous adverse reactions). Other research interests include the characterization and prognostication of neutrophilic dermatoses, autoimmune blistering conditions and cutaneous vasculitis.

Past and Current Duke-NUS Research Students

Chua Shunjie (Class of 2015)

Student Publications

NA
Lee, Sang Hyun  PhD

Assistant Professor, Programme in Cancer and Stem Cell Biology, Duke-NUS Graduate Medical School Singapore

Contact: 6601 1406
Email: sanghyun.lee@duke-nus.edu.sg
Website: -

Research Summary

First observed over 110 years ago, abnormal chromosome content, also known as aneuploidy, is the most common characteristic of human solid tumors. Indeed, in contrast to normal cells, various cancer cell lines show frequent gain and loss of whole chromosomes, known as chromosomal instability (CIN). The mitotic phase of the cell cycle is the period for equal segregation of replicated sister chromatids and cytokinesis to generate two genetically identical daughter cells. Although the mechanisms how human cancer cells establish such an altered chromosomal state remains unknown, an error in a mitotic process is considered as a direct cause of aneuploidy and CIN. Thus, our researches are focused on understanding the molecular mechanisms of the mitotic defects on CIN and tumorigenesis. Moreover, we are interested in identifying novel anti-mitotic targets and exploring the mechanism how targeting those mitotic proteins would compromise tumor development.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Lee, Shu Yen  MBBS, MMed(Ophth), FRCS(Ed), FAMS

Adjunct Associate Professor, Duke-NUS Graduate Medical School
Senior Consultant, Vitreo-Retinal Service, Singapore National Eye Centre

Contact: -
Email: lee.shu.yen@snec.com.sg
Website: -

Research Summary

Adj Assoc Prof Lee has research interests in vitreoretinal diseases. She has been involved in clinical studies on retinal detachment, retinal complications of myopia and anti-VEGF therapies. She has also participated in collaborative research in animal work on gene therapy.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Lee, Tih Shih  MD, PhD, FRCP(C)

Associate Professor, Programme in Neuroscience and Behavioural Disorders, Duke-NUS Graduate Medical School Singapore
Associate Professor, Psychiatry and Behavioral Sciences, Duke University
Senior Consultant, Department of Psychiatry, Singapore General Hospital

Contact: 6516 7461
Email: tihshih.lee@duke-nus.edu.sg
Website:

Research Summary

Genomic and proteomic characterization of the human hippocampus in temporal lobe epilepsy. Genome-wide expression analysis and molecular characterization of dementia and other neuropsychiatric disorders. Brain-Computer Interface treatment of Attention Deficit and Hyperactivity Disorder.

Past and Current Duke-NUS Research Students

Cheryl Ann Teh (Class of 2012)

Student Publications

Lee, Yung Seng  MBBS, MMed(Paeds)(S’pore), PhD, MRCP(UK), FRCPCH, FAMS

Associate professor, Department of Paediatrics, Yong Loo Lin School of Medicine, NUS
Senior Consultant, Department of Paediatrics, Khoo Teck Puat-National University Children's Medical Institute
Principal Investigator, Singapore Institute for Clinical Sciences, A*STAR

Contact: 6772 4420
Email: paeleeys@nus.edu.sg
Website: ResearchGate Profile

Research Summary

His current research interests are appetite regulation, obesity, metabolic disorders, and growth. He is a theme Principal investigator of the birth cohort study (GUSTO) of the Translational Clinical Research programme on developmental pathways to metabolic diseases, and his current research activities revolve around these projects.

GUSTO is Singapore’s largest and most comprehensive birth cohort study which provided unique opportunities to study developmental plasticity and the role of epigenetics. A/P Lee research focus is on the impact of maternal and prenatal factors on the subsequent growth of the offspring, and developmental origins of taste and food preference, and appetite regulation.

Past and Current Duke-NUS Research Students

Zhou Yi (Class of 2015)

Student Publications

NA
Leow, Melvin Khee Shing  MBBS, MMed (Int Med), FACP, FACE (USA), FAMS, FRCP (Edin)

Adjunct Associate Professor, Office of Clinical Sciences, Duke-NUS Graduate Medical School Singapore
Clinical Associate Professor, Yong Loo Lin School of Medicine, National University Singapore
Clinical Investigator, Singapore Institute for Clinical Sciences, A*STAR
Senior Consultant Endocrinologist, Department of Endocrinology, Tan Tock Seng Hospital
Deputy Director, Singapore Clinical Nutrition Research Centre
Associate Staff (Consultant), Department of Medicine, National University Health System
Visiting Consultant - Changi General Hospital

Contact: -
Email: melvin.leow@duke-nus.edu.sg
Website: ResearchGate Profile

Research Summary

The Clinical Metabolic Physiology laboratory and the Clinical Nutrition Research Centre where A/Prof Leow works are devoted to translational and clinical research to elucidate the pathophysiological basis of metabolic disorders. The major focus of his research group is to understand the control over energy balance, neuroendocrine function and metabolism that is exerted through critical brain centers and feedback loops between key metabolic tissues and organ systems. This research group undertakes studies that encompass metabolic / endocrine physiology, clinical nutrition, food science and clinical trials which have the collective goal of understanding better the contribution of developmental and environmental factors to the emergent pattern of metabolic disease in Singapore. A/Prof Leow's research interests include elucidating the role of epigenetic programming in metabolic disorders, endocrine manifestations and complications of systemic disorders, thyroid disorders, endocrinologic oncology, paraneoplastic endocrinopathies, endocrine hypertension, mathematical modeling of endocrine physiology and molecular endocrinology.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Leung, Katy Ying Ying  
*MB.ChB, FHKAM (MED)*

Assistant Professor, Duke-NUS Graduate Medical School Singapore  
Senior Consultant, Department of Rheumatology & Immunology, Singapore General Hospital  
Clinical Senior Lecturer, Yong Loo Lin Medical School, National University Singapore

**Contact:** 6326 5276  
**Email:** katy.leung.y.y@sgh.com.sg  
**Website:** Google Scholar Profile

**Research Summary**

Currently we diagnose knee OA late when they develop XR changes. There is no drug that is capable of delaying the progression of OA knee. The current management of OA knee is palliative, we give patients pain killers until their cartilages are all gone and we offer joint replacement surgery. There is a huge unmet need in the management of care in these patients.

We use biochemical, inflammatory biomarkers to identify subjects with knee pain who has MRI cartilage defects and see what factors that predict progression over 2 year period. This may help discovery of biomarkers that assist an early diagnosis of OA knees. This group of patients with early OA knee may be more responsive to treatment.

We test drug that has potential of delaying the progression of OA knee and try to understand the mechanism via blood, urine and synovial fluid biomarkers.

**Past and Current Duke-NUS Research Students**

Maria Noviani (Class of 2015) *(Not Yr 3/4 research)*

**Student Publications**

Li, Jialiang  PhD

Associate Professor, Centre for Quantitative Medicine, Duke-NUS Graduate Medical School Singapore
Associate Professor, Department of Statistics and Applied Probability, National University of Singapore

Contact: 6516 8932
Email: stalj@nus.edu.sg
Website: Google Scholar Profile

Research Summary

Dr Li conducts methodology development research in various fields in biostatistics, including diagnostic medicine, survival analysis and longitudinal data analysis. Dr. Li is also interested in collaborative research and has been working on genetics, nutritional sciences, ophthalmology, heart disease, kidney disease, diabetes, psychiatry, etc. He is the PI of two NMRC grants and has been PI or Co-I on various grants. Dr. Li has authored over 90 peer-reviewed papers and is currently on the editorial board of Biometrics and Lifetime Data Analysis. He received 2011 Young Scientist Award from NUS.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Research Summary

The continued proliferation of human cells depends on the proper maintenance of the genomic information encoded in the 46 linear human chromosomes. The stability of these linear chromosomes depends on telomeres, which are maintained by telomerase. Up-regulation of telomerase is found in more than 85% of human cancers, while telomerase insufficiency can cause early onset of human aging, highlighting the crucial role of telomerase regulation in both cancer therapy and human aging. On the one hand, we would like to inhibit overexpressed telomerase in tumor cells; on the other hand, we need to maintain the telomerase activity of normal stem cells to prevent early onset of aging.

My research goal is to elucidate mechanisms underlying the regulation of telomerase activity in cancer cells and normal stem cells, and to develop novel approaches for therapeutic intervention of human cancer and early onset of aging. Using both yeast and mammalian systems, I will focus on both (1) the regulation of telomerase activity by post-translational modification of telomerase and telomerase-related factors, and (2) the transcriptional regulation of human telomerase reverse transcriptase.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Liao, Ping *PhD*

Adjunct Assistant Professor, Duke-NUS Graduate Medical School Singapore
Principal Investigator and Head, Calcium Signalling Laboratory, National Neuroscience Institute (TTSH Campus)

Contact: 6357 7611  
Email: ping_liao@nni.com.sg  
Website: -

Research Summary

My lab is working on TRP channels in ischemic stroke. A lot of animal work is required in the study for operating on rodents to create stroke model. The operation is done under microscopy which is a good training process for medical students. Furthermore, other techniques are needed in the study, including RT-PCR, immunostaining, western blot, and animal behavior study etc. Our lab is properly funded to carry out relevant studies.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Lim, Chwee Ming  
MBBS (Singapore), MRCS (Edin), MMed (Otorhinolaryngology) (Singapore)

Assistant Professor, Yong Loo Lin School of Medicine, National University of Singapore
Consultant Head and Neck Surgeon, Department of Otolaryngology-Head and Neck Surgery, National University Hospital Singapore

Contact: 6772 5371
Email: chwee_ming_lim@nuhs.edu.sg
Website: ResearchGate Profile

Research Summary

Dr Lim is a clinician investigator at the National University of Singapore. His main research focus is on immunology and immunotherapy in head and neck cancer. He runs a lab working on enhancing immune effects and understanding these mechanisms in virally driven head and neck cancer. His other area of research is on robotic and medical device research in optimizing surgical and post treatment care for head and neck cancer patients. He has published around 20 papers, 2 book chapters and holds 3 existing grants to fund his research.

Past and Current Duke-NUS Research Students

Xiong Jiaqing (Class of 2015; Co-Mentor)

Student Publications

NA
Lim, Darren Wan-Teck  MBBS, MRCP (UK)

Associate Professor, SingHealth Duke-NUS Oncology Academic Clinical Programme
Senior Consultant, Department of Medical Oncology, National Cancer Centre Singapore
Director, Investigational Medicine Unit, SingHealth

Contact: 6436 8200
Email: dmolwt@nccs.com.sg
Website: -

Research Summary

My research interests lie in head, neck and lung cancer. I am also actively involved in the development of biomarker correlative clinical trials. As such current projects include developing tissue and imaging biomarkers, biomarker allocated clinical trials and novel technologies to study biomarkers in cancer.

Past and Current Duke-NUS Research Students

Ang Siok Hoon (Class of 2013)
Szymon Mikulski (Class of 2013)
Zeng Wanling (Class of 2015)

Student Publications

NA
Lim, Kah Leong  PhD

Associate Professor, Programme in Neuroscience and Behavioural Disorders, Duke-NUS Graduate Medical School Singapore
Principal Research Scientist, Neurodegeneration Research Laboratory, National Neuroscience Institute (TTSH Campus)
Associate Professor, Department of Physiology, National University of Singapore

Contact: 6516 5413
Email: Kahleong.lim@duke-nus.edu.sg
Website: ResearchGate Profile

Research Summary

The long term primary goal of my lab is to elucidate the molecular events underlying Parkinson’s disease (PD), with the view to develop novel therapies aimed at effectively treating the disease. To realize this goal progressively, our research work focuses on achieving the following inter-related objectives.

1. MECHANISMS – To identify and characterize key players/events that contribute to PD pathogenesis
2. MODELS – To generate reliable preclinical models of PD that would facilitate drug discovery efforts
3. MEDICINE – To develop therapeutic strategies based on the knowledge gleaned from our research work

Our other interest is to explore the relatively poorly characterized but intriguing relationship between PD and cancer. This is a novel angle that we have taken, which we believe might shed important insights into the (paradoxically) shared mechanism that underlies the opposite cellular fates of the two seemingly disparate diseases. We are collaborating with A/Prof Ang Beng Ti and Dr Carol Tang from the Neuro-oncology Program to address this.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Lim, Soon Thye  *MBBS, MRCP (UK), FAMS*

Associate Professor and Assistant Dean (Career Advising), Duke-NUS Graduate Medical School Singapore

Senior Consultant and Head, Department of Medical Oncology, National Cancer Centre Singapore

Contact: 6436 8174
Email: dmolst@nccs.com.sg / gmslimst@nus.edu.sg
Website: -

**Research Summary**

We have built a strong lymphoma research team at the National Cancer Centre, with collaborators from DUKE-NUS and various institutions from Singapore. We strongly believe that in lymphoma, especially in T-cell lymphoma which is most prevalent among Asians and not common in Western countries, we can make a significant impact by discovering and developing novel biomarkers to detect, diagnose and follow-up the cases. Equally important, we are keen to identify potential novel therapeutic targets that can be further studied and developed into novel therapy for the patients. In our group, students participate in the many ongoing projects ranging from retrospective dataset analysis, prospective epidemiological study and translational research. Some examples include:

1. Examine the clinical and pathological profile of lymphoid malignancies in Singapore with respect to mode of presentation, clinical features, histologic and immunophenotypic distribution. We also prospectively follow-up this patient series to describe and compare cumulative survival, rate of remission, minimal residual disease. We have a database of more than 2000 lymphoid malignancies.
2. Participate in an ongoing prospective epidemiological lymphoma study.
3. Participate in studies that interrogate B cell lymphomas using interphase FISH for genetic alterations and correlating to clinical outcomes.
4. Participate in studies that seek to characterize the genomic profile of lymphoma in Asian patients by a) examining mutation landscape of using high-throughput exome sequencing and paired-end tag sequencing technologies, b) gene expression as well as copy number profiling using Affimetrix microarray technology.
5. Participate in studies that validate biomarkers identified against a large number of archival patient material and a clinical database to identify those of particular clinical significance for diagnosis, prognostication or stratification for clinical management.
6. Participate in functional studies and pre-clinical studies that test potential therapeutic targets identified from (4) and (5).

**Past and Current Duke-NUS Research Students**

Jang Jia Hui Isabelle (Class of 2014; Co-mentor)
Sharon Harvinder Kaur Dhillon (Class of 2015)

**Student Publications**

NA
Lim, Swee Han  MBBS, FRCSEd (A&E), FRCP Edin, FAMS (Emergency Med)

Adjunct Associate Professor, Duke-NUS Graduate Medical School Singapore
Senior Consultant, Department of Emergency Medicine, Singapore General Hospital
Clinical Associate Professor, Yong Loo Ling School of Medicine, National University of Singapore

Contact: 6326 5706
Email: gaels@sgh.com.sg
Website: ResearchGate Profile

Research Summary
NA

Past and Current Duke-NUS Research Students

Tan Chong Yew (Class of 2016)

Student Publications
NA
Ling, Khoon Lin  MBBS (Spore), MRCP (UK), MMed (Int Med), DPhil (Oxon), FAMS

Adjunct Assistant Professor, Duke-NUS Graduate Medical School Singapore
Senior Consultant and Head, Department of Gastroenterology & Hepatology, Singapore General Hospital
Adjunct Assistant Professor Yong Loo Lin School of Medicine, National University of Singapore

Contact: 6326 5782
Email: ling.khoon.lin@sgh.com.sg
Website: -

Research Summary

Dr Ling is a gastroenterologist with an interest in the immunology of chronic inflammatory diseases in the gastrointestinal tract. His current research evaluates the immune response in Helicobacter pylori gastritis and inflammatory bowel disease and how this may predispose patients to gastrointestinal cancers. Dr Ling is a recipient of the NMRC Clinician Scientist award and receives grant funding from NMRC and BMRC.

Past and Current Duke-NUS Research Students

Esther Chang Wei Yin (Class of 2012)  Zhang Zewen (Class of 2013)
Tay Wei Lin (Class of 2012)  Valerie tan Hui Fen (Class of 2013)
Jan Chng Xue Ren (Class of 2013)  Anuradha Pandey (Class of 2015)

Student Publications

NA

Associate Professor, Duke-NUS Graduate Medical School Singapore
Senior Consultant and Head, Department of Neurology, National Neuroscience Institute (SGH Campus)
Adjunct Associate Professor, Yong Loo Lin Medical School, National University of Singapore

Contact: 6325 5003
Email: gnrlyl@sgh.com.sg
Website: -

Research Summary

- Functional neurophysiology of cord compression
- Mechanisms of cervical whiplash
- Cortical plasticity changes in spinal cord dysfunction
- Transcranial magnetic stimulation in motor control
- Neuromuscular transmission in demyelinating neuropathies
- Optical imaging of cortical and cerebellar activity.

Past and Current Duke-NUS Research Students

Andrew Green (Class of 2012)

Student Publications

Loh, Thomas Kwok Seng  MBBS (S’pore), FRCS
(Glasg)

Senior Consultant and Head, Department of Otolaryngology (ENT) - Head & Neck Surgery, National University Hospital
Associate Professor, Department of Otolaryngology, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 6772 5370
Email: entv5@nus.edu.sg
Website: -

Research Summary

His main research is in the area of early diagnosis on nasopharyngeal carcinoma (NPC).

Past and Current Duke-NUS Research Students
Xiong Jiaqing (Class of 2015)

Student Publications
NA
Lok, Shee Mei  PhD

Associate Professor, Programme in Emerging Infectious Diseases, Duke-NUS Graduate Medical School

Contact: 6516 5840
Email: sheemei.lok@duke-nus.edu.sg
Website: ResearchGate Profile

Research Summary

Assistant Professor Lok is one of the recipients for the prestigious National Research Foundation fellowship. Dengue Virus (DENV) infects approximately 100 million people each year. Increased travel, together with global climate change will result in further geographical expansion of the territory of the dengue mosquito vector, Aedes aegypti. There is an urgent need to develop safe and effective dengue therapeutics and vaccine.

In vitro experiments have shown that non-neutralizing antibodies can enhance DENV infection of Fc receptor bearing macrophages, one of the natural host cells for the virus. This suggested that the presence of non-neutralizing epitopes in a vaccine could potentially increase the chances that a person who had received the vaccine would develop the severe form of the disease, dengue hemorrhagic fever. For this reason, a more promising approach for engineering an effective DENV vaccine is to focus on including neutralizing epitopes. Thus, mapping of neutralizing epitopes is a necessary component of DENV vaccine research. Furthermore, understanding the neutralization mechanism of antibodies and the entry of DENV into the host cells also could aid in the design of targeted therapeutics.

The research in her laboratory therefore, focuses on the understanding of the pathology of dengue virus infection and the mechanism of neutralization by antibodies and other molecules so as to facilitate the development of suitable vaccines and therapeutics. A combination of molecular, immunological, biochemical and structural techniques (x ray crystallography and cryoEM image reconstruction techniques) will be used to achieve these aims.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Low, Jenny Guek Hong MBBS, MRCP (UK), MPH

Adjunct Assistant Professor, Duke-NUS Graduate Medical School
Senior Consultant, Department of Infectious Diseases, Singapore General Hospital

Contact: 6321 3479
Email: jenny.low@sgh.com.sg
Website: -

Research Summary

Dr Jenny Low is a Board Certified senior consultant with the department of Infectious Diseases in Singapore General Hospital. She also has a Master of Public Health from Johns Hopkins University and has been active in dengue clinical research for more than ten years. Concurrently, she is also the co-director of the Health Services Research Unit in the Division of Research in SGH. She led the early dengue infection and outcome (EDEN) study that detailed, in several publications, clinical dengue in adults. She was the lead clinical investigator in the first proof-of-concept clinical trial on the use of celgosivir as an anti-dengue drug (CELADEN) in Singapore. She is also the lead clinical investigator for the open-label proof-of-concept trial of Japanese encephalitis and yellow fever vaccinations to test the role of pre-existing cross-reactive antibodies in influencing vaccine efficacy.

Past and Current Duke-NUS Research Students

Tan Boon Hian (Class of 2014; Co-mentor)
Toh Liying (Class of 2014; Co-mentor)
Wang Xiaohui (Class of 2016)

Student Publications

Low, Kin Huat  PhD

Professor, Division of Mechatronics and Design, School of Mechanical and Aerospace Engineering, Nanyang Technological University, Singapore

Contact: 6790 5755
Email: mkhlow@ntu.edu.sg
Website:

Research Summary

Prof Low's recent research projects relevant to bio-engineering include the following topics:

- Design and development of dispensers for retort tray meal automation
- Motion Planning for Task Manipulation and Handling
- Perching Aircraft Research and Development (DSOCL09292)
- Programme on Aviatin System Block Upgrade and Air Traffic Management modernisation
- Programme on Aviation System Block Upgrade and Air Traffic Management modernisation
- Project CRANEV
- Prototype Development of Assistive Leg Device for Partial-Paralysis Patients
- Task-based Cooperative UAVs in Specified Environments

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Malhotra, Rahul  MBBS, MD, MPH

Assistant Professor, Programme in Health Services and Systems Research, Duke-NUS Graduate Medical School Singapore

Contact: 6516 6721
Email: rahul.malhotra@duke-nus.edu.sg
Website: Google Scholar Profile

Research Summary

Dr. Malhotra’s current research mainly focuses in two areas, namely health of older adults and obesity. His research in the area of health of older adults includes that on risk factors and consequences of chronic diseases, life-course influences on older adult health outcomes and physical, mental and social facets of care giving for the elderly. His research in the area of obesity includes characterization of weight trajectories over the life course. He also maintains a research interest in maternal and child health, and health of vulnerable population groups in developing country settings. He has authored or coauthored over 40 peer reviewed papers in the medical and public health literature. Journals in which he has published include International Journal of Epidemiology, Journal of the American Geriatrics Society, Quality of Life Research, and Hypertension Research.

Past and Current Duke-NUS Research Students

<table>
<thead>
<tr>
<th>Name</th>
<th>Class Year</th>
<th>Mentorship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ee Tat Xin</td>
<td>Class of 2011</td>
<td>Co-mentor</td>
</tr>
<tr>
<td>Koh Hui Shan</td>
<td>Class of 2011</td>
<td>Co-mentor</td>
</tr>
<tr>
<td>Kouk Leong Jin</td>
<td>Class of 2012</td>
<td>Co-mentor</td>
</tr>
<tr>
<td>Neo Ghim Hoe</td>
<td>Class of 2012</td>
<td>Co-mentor</td>
</tr>
<tr>
<td>Wu Lin Chieh</td>
<td>Class of 2013</td>
<td>Co-mentor</td>
</tr>
<tr>
<td>Ku Chee Wai</td>
<td>Class of 2013</td>
<td>Co-mentor</td>
</tr>
<tr>
<td>Noda Misa</td>
<td>Class of 2014</td>
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<tr>
<td>Huang Shiqi Joan</td>
<td>Class of 2015</td>
<td></td>
</tr>
<tr>
<td>Glenn Goh</td>
<td>Class of 2015</td>
<td>Co-mentor</td>
</tr>
<tr>
<td>He Song</td>
<td>Class of 2015</td>
<td>Co-mentor</td>
</tr>
<tr>
<td>Siew Jia Yun Shayna</td>
<td>Class of 2015</td>
<td>Co-mentor</td>
</tr>
<tr>
<td>Carmen Lim Zhiruo</td>
<td>Class of 2016</td>
<td>Co-mentor</td>
</tr>
</tbody>
</table>

Student Publications


Matchar, David B.  

**MD, FACP, FAHA**

Professor and Programme Director, Programme in Health Services and Systems Research, Duke-NUS Graduate Medical School  
Professor, Medicine, Duke University  
Senior Fellow, Center for the Study of Aging and Human Development

**Contact:** 6516 2584  
**Email:** david.matchar@duke-nus.edu.sg  
**Website:** [Google Scholar Profile](#)

**Research Summary**

My research relates to clinical practice improvement - from the development of clinical policies to their implementation in real world clinical settings. Most recently my major content focus has been cerebrovascular disease. Other major clinical areas in which I work include the range of disabling neurological conditions, cardiovascular disease, aging, and complex/chronic illness.

Methodologically, my work relies on analytic strategies such as meta-analysis, simulation, decision analysis and cost-effectiveness analysis; the goal is to balance methodological rigor with the practical needs of decision makers. Illustrative current projects include development of simulations of various aspects of the Singapore health system, trials of innovative approaches to care (e.g. integrated transitional care, falls prevention, apps for management of insulin), and population survey studies to assess health and social service needs.

I remain clinically active part time in Internal Medicine in the US.

**Past and Current Duke-NUS Research Students**

Alfred Ka-Shing Wong (Class of 2016)

**Student Publications**

NA
Mehta, Jodhbir  BSc, MBBS, M.D, FRCOphth, FRCS(Ed)

Head and Senior Consultant, Corneal and External Eye Disease Service, Singapore National Eye Centre
Adjunct Associate Professor, Department of Ophthalmology, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 6322 7478
Email: jodhbir.s.mehta@snec.com.sg
Website: Google Scholar Profile

Research Summary

A/Prof Mehta’s research interests cover all aspects of corneal external disease and refractive surgery from basic science, translational and clinical research. These include laboratory based research investigating new stem cell based therapies e.g. culturing of human corneal endothelial cells and studies on patients with corneal genetic disorders. Translational research involves the development of an artificial cornea device, new instruments for corneal transplantation to improve patient outcomes, and effects of femtosecond lasers in corneal/refractive surgery as well as development of novel drug delivery devices.

His clinical based research involves research into imaging devices for the cornea, case comparative cohorts of new selective tissue transplantation procedures. He is also lead PI for Singapore for a large multicentre infectious keratitis study.

Past and Current Duke-NUS Research Students

Zhang Ting (Class of 2012)
Benjamin Mo-Yan Wu (Class of 2016)

Student Publications

Ng, Quan Sing  MBBS (London), MD (London), MRCP (UK)

Consultant, Department of Medical Oncology, National Cancer Centre Singapore
Adjunct Investigator, Investigational Medicine Unit, SingHealth
Clinical Senior Lecturer, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 6436 8546
Email: ng.q.s@nccs.com.sg
Website: -

Research Summary

Functional imaging describes the use of radiological techniques to evaluate tissue biology, in addition to high quality anatomical images. A myriad of imaging techniques, including MRI, CT, PET and USS have been developed that allows quantitative and semi-quantitative measurements of various facets of tumour physiology and biology, including metabolism, angiogenesis, cellular proliferation and hypoxia. Our group is actively involved in pre-clinical applications of functional imaging, as well as developing functional imaging as a biomarker in early phase clinical trials.

The unique nature of functional imaging research will allow the student to appreciate the multi-disciplinary interactions between diagnostic radiologists, medical and radiation oncologists, physicists and basic scientists. The student will gain experience in the design and day-to-day running of early phase cancer trials, acquire knowledge on various imaging techniques and interpretation of radiological images, and learn about the physics and mathematics of tracer kinetic modelling.

Past and Current Duke-NUS Research Students

Szymon Mikulski (Class of 2013; Co-mentor)
Teo Qiao Qi (Class of 2015)

Student Publications

Ng, Wai Hoe  MBBS, MD (NUS), FRACS (Neurosurgery), FAMS (Neurosurgery)

Associate Professor, Duke-NUS Graduate Medical School Singapore
Academic Chair, SingHealth Duke-NUS Neuroscience Academic Clinical Programme
Medical Director, National Neuroscience Institute
Senior Consultant, Department of Neurosurgery, National Neuroscience Institute

Contact: 6357 7191
Email: wai_hoe_ng@nni.com.sg
Website: -

Research Summary

1. Brain Tumour Research- focus on gliomas
2. Surgical navigation and imaging
3. Neurotechnology (MedTech)

Past and Current Duke-NUS Research Students

Md. Tauseef Khalid (Class of 2016)

Student Publications

NA
Ng, Yee Sien  
**MBBS (S'pore), MRCP (UK), FAMS**

Adjunct Assistant Professor, Duke-NUS Graduate Medical School Singapore  
College Master, Seah Cheng Siang College, Duke-NUS Graduate Medical School Singapore  
Head of Department and Senior Consultant, Department of Rehabilitation Medicine, Singapore General Hospital  
Adjunct Investigator, Investigational Medicine Unit, SingHealth  
Clinical Senior Lecturer, Yong Loo Lin School of Medicine, National University of Singapore  

Contact: 6326 6667  
Email: ng.yee.sien@sgh.com.sg  
Website: -

**Research Summary**

Dr Ng does clinical research widely on rehabilitation, medicine and disability. His areas of work include:

1. Disease and disability epidemiology including predictors of outcome of patients with stroke, traumatic brain injury, minimally responsive states, general internal medicine and various neurologic and musculoskeletal disabling disorders.

2. Physiology of common syndromes in rehabilitation including spasticity and tone disorders, frailty, deconditioning, and gait disorders with the use of EMG and gait analysis.

3. Medical therapeutics involving both pharmacological and non-medical modalities. This includes the use of neurostimulants and antidepressants; together with the use of rehabilitation modalities including non-invasive brain stimulation and music therapy.

4. Rehabilitation and Medical Technology specifically the use of rehabilitation robotics, electrical stimulation and virtual reality.

The Department of Rehabilitation Medicine has ongoing clinical databases in general rehabilitation and traumatic brain injury with ongoing collaborations with Faculties of Engineering and Computer Sciences in Singapore’s tertiary institutes and polytechnics.

**Past and Current Duke-NUS Research Students**

Tan Chunzhen (Class of 2014)  
Choo Wan Li Amanda (Class of 2015)  
Chong Xiao Yun (Class of 2016)  
Tao Chan Eric (Class of 2016; Co-mentor)

**Student Publications**

NA
Ong, Eng Hock Marcus  MBBS, FRCS, MPH

Associate Professor, Programme in Health Services and Systems Research, Duke-NUS Graduate Medical School Singapore
Senior Consultant, Director of Research and Clinician Scientist, Department of Emergency Medicine, Singapore General Hospital
Director, Health Services Research and Biostatistics Unit, Division of Research, in SGH
Director, Unit for Prehospital Emergency Care in Ministry of Health, Singapore
Senior Consultant, Hospital Service Division, Ministry of Health

Contact: 6321 3590
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Website: Google Scholar Profile

Research Summary

A/Prof Ong has been actively involved in research, education and clinical services for more than 10 years. His research studies focus predominantly on pre-hospital emergency care, medical devices, and health services research. His research has addressed issues such as out-of-hospital cardiac arrest (OHCA), improving ambulance deployment, acute myocardial infarction, etc. In addition, he was awarded the Clinician Scientist Award by the National Medical Research Council for his Pan-Asian Resuscitation Outcomes Study and has received multiple accolades for his research work. A/Prof Ong has published over 100 papers in international and local peer-reviewed journals such as Journal of the American Medical Association, American Journal of Medicine, Critical Care Medicine, Resuscitation, Annals of Emergency Medicine, American Journal of Emergency Medicine, Singapore Medical Journal, Annals of the Academy of Medicine Singapore etc.

Past and Current Duke-NUS Research Students

Ken Goh Junyang (Class of 2012)  
Ting Boon Ping (Class of 2013)  
Connie Boh (Class of 2014)  
Lai Hsuan (Class of 2014)
Sumitro Harjanto (Class of 2015)  
Marcus Lee Aik Beng (Class of 2015)  
Ho Shu Fang (Class of 2016)  
Tan Chong Yew (Class of 2016; Co-mentor)

Student Publications


Ong, Sin Tiong  MA, MBBCh, MRCP (UK), ABIM (Internal Medicine, Hematology, and Medical Oncology)

Associate Professor, Programme in Cancer and Stem Cell Biology, Duke-NUS Graduate Medical School

Contact: 6516 7763
Email: sintiong.ong@duke-nus.edu.sg
Website: -

Research Summary

The research themes of this laboratory are translational in nature, and centre on gaining a better understanding of the basic pathophysiology of human malignancies in order to improve the management and treatment of patients with cancer.

Several projects in the laboratory are guided by the overarching hypothesis that dysregulated mRNA translation is essential to cellular transformation. This hypothesis is supported by prior work from our group and others which have demonstrated that the aberrant activation of several signaling pathways associated with the oncogenic state (including MAPK and PI3K/Akt) impinge on the cellular machinery that regulates both cap-dependent and cap-independent mRNA translation. These observations suggest that dysregulated translation contributes to cellular transformation via altering the expression of genes that control cellular proliferation and/or death. Importantly, these data indicate that therapeutic targeting of dysregulated translation is a valid strategy to test in the cancer clinic.

Specific projects in the laboratory include: investigating the role of cap-dependent and cap-independent translation in various human malignancies, the identification and development of small molecules which can target aberrant mRNA translation in cancer cells, and determining the identity of genes which are dysregulated at the level of translation. Other preclinical projects include the use of novel approaches to identify the molecular signature of drug resistance in primary human cancer tissues, as well as the genetic abnormalities that confer stem cell-like properties to human cancers, including the ability to self-renew. Finally, our group is also conducting an international Phase I study testing the feasibility and efficacy of targeting the mTOR kinase (a central regulator of eukaryotic mRNA translation) in patients with drug-resistant chronic myelogenous leukaemia.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Ooi, Eng Eong  *BMBS, FRCPath, PhD*

Associate Professor and Programme Deputy Director, Programme in Emerging Infectious Diseases, Duke-NUS Graduate Medical School  
Distinguished Member of Technical Staff, DSO National Laboratories, Singapore

Contact: 6516 8594  
Email: engeong.ooi@duke-nus.edu.sg  
Website: -

**Research Summary**

The global emergence of epidemic dengue is fueled by an incomplete understanding of the determinants of both immunity and pathogenesis. Our laboratory aims to contribute to an improved understanding of dengue by positioning itself at the interface between clinical epidemiology, virology and immunology. Specifically, we are interested in elucidating: (1) how antibodies either protect against or enhance dengue virus infection and (2) what viral factors determine the outcome of infection or transmissibility and hence explain its epidemiological phenotype. By elucidating these mechanisms, we hope to contribute to the development of effective vaccines or therapeutics.

While the primary focus of the laboratory is on dengue, we also take advantage of the opportunities presented in prospective clinical studies to examine the etiology of acute febrile illnesses.

**Past and Current Duke-NUS Research Students**

Shera Chaterji (Class of 2011)  
Ryan Wu Songlian (Class of 2013)  
Tan Boon Hian (Class of 2014; Co-mentor)  
Toh Liying (Class of 2014)  
Chew Jun Jie (Class of 2016)  
Wang Xiaohui (Class of 2016; Co-mentor)

**Student Publications**


Østbye, Truls  MD, MPH, PhD, FFPH (UK)

Professor, Programme in Health Services and Systems Research, Duke-NUS Graduate Medical School Singapore
Professor and Director of Global Health, Community and Family Medicine, Duke University

Contact:
Email: truls.ostbye@duke.edu / truls.ostbye@duke-nus.edu.sg
Website: Google Scholar Profile

Research Summary

Prof. Østbye, a chronic disease epidemiologist and public health researcher, has a special interest in obesity, diseases of the elderly and global health. In Singapore, his current research includes studies of: health and lifestyles of elderly Singaporeans, physical, mental and social facets of care giving for elderly Singaporeans, risk factors for threatened and complete miscarriages, and evaluation of workplace health promotion programs. His current research in the USA includes studies of: obesity in the postpartum period and in children, use of clinical preventive services, cognitive decline, health and social support among the elderly, doctor-patient communication, and occupational health surveillance among health care workers. His global health projects include those of health and illness among textile workers in Sri Lanka, febrile illness in Sri Lanka and secondary analysis of DHS Indian datasets for maternal and child health outcomes. He currently is the PI of two R01 grants from the NIH and he has authored or coauthored over 250 peer reviewed papers in the medical and public health literature.

Past and Current Duke-NUS Research Students

Ee Tat Xin (Class of 2011)                            Noda Misa (Class of 2014; Co-mentor)
Koh Hui Shan (Class of 2011)                        Glenn Goh (Class of 2015)
Kouk Leong Jin (Class of 2012)                     He Song (Class of 2015; Co-mentor)
Neo Ghim Hoe (Class of 2012)                        Siew Jia Yun Shayna (Class of 2015; Co-mentor)
Wu Lin Chieh (Class of 2013)                       Carmen Lim Zhiruo (Class of 2016)
Ku Chee Wai (Class of 2013)

Student Publications

Pervaiz, Shazib  

MBBS, PhD

Professor, Programme in Cancer and Stem Cell Biology, Duke-NUS Graduate Medical School
Professor, Department of Physiology, Yong Loo Lin School of Medicine, National University Singapore
Professor, Graduate School for Integrative Sciences and Engineering, National University of Singapore
Professor, Singapore-MIT Alliance

Contact: 6516 6602
Email: Shazib_Pervaiz@nuhs.edu.sg
Website: ResearchGate Profile

Research Summary

- Receptor and non-receptor Death Signaling
- Regulation of Cell Death Signaling in Cancer Cells
- Reactive Oxygen Species and Cell Fate Decisions
- Bcl-2 Family and Mitochondrial Physiology
- Redox Status and Cancer Stem Cells
- Autophagy and Cancer
- Novel Drug Discovery

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Pettersson, Sven  MD, PhD

Professor, Metabolic Disease, Lee Kong Chian School of Medicine, Nanyang Technological University
Principal Investigator, Microbiota Host Interactions, Nutrigenomics & Metabolism Laboratory

Contact: 6576 7335
Email: Sven.Pettersson@ki.se
Website: -

Research Summary

We are interested in how microbes influence host physiology. More specifically, we are studying the gut-brain communication and aiming to identify the signaling pathways and metabolites by which microbes, localized in the gut, can impact on neurological development and function. We are using animal models where mice are kept under germ-free conditions thus allowing for controlled and defined microbe-host interactions. We are also using ex-vivo tissue cultures to study microbe-cell interactions. To obtain meaningful information from the complex bacteria-host communication, a systems biology approach has been established. This includes use of metagenomic, metatranscriptomic profiling of the bacteria and metabonomics using mass spectrometry and NMR.

Past and Current Duke-NUS Research Students

Yang Jiajing Edwin (Class of 2016)

Student Publications

NA
Quah, Stella R.  PhD, MSc

Adjunct Professor, Programme in Health Services and Systems Research, Duke-NUS Graduate Medical School Singapore

Contact: 6469 3564
Email: stella.quah@duke-nus.edu.sg
Website: [Google Scholar Profile](#)

Research Summary

Prof Quah’s areas of research are medical sociology, family sociology and public policy. Her research comprises the health services utilization; self-medication; population health attitudes and health-related behavior including smoking, alcohol consumption, diet and exercise; socio-cultural factors in infectious diseases, heart disease and cancer; public health education; epidemiology and the governance of epidemics (e.g., Quah, Elsevier Reference Module in Biomedical Sciences, 2014; Quah, Oxford Textbook on Global Public Health, 2015, 2: 695-708); the impact of mental illness in the family, particularly the importance and strain of family caregiving by combining theories and methods from family sociology and medical sociology, and the link between formal health services and family caregiving (e.g., Quah, Sociology of Health & Illness, 2014, 36, 4:596-612; and Quah, Routledge Handbook of Families in Asia, 2015: 359-374).

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Quek, Richard Hong Hui  MBBS, MRCP (UK)

Senior Consultant and Deputy Head, Department of Medical Oncology, National Cancer Centre Singapore
Program Director, Medical Oncology Residency, SingHealth / National Cancer Centre Singapore

Contact: 6436 8000
Email: dmorqhh@nccs.com.sg
Website: -

Research Summary

Dr Quek’s chief research interest is primarily focused on translational therapeutics, developing new molecularly targeted therapeutics in both sarcoma and lymphoma in an academic environment. Since returning from his fellowship at the Centre for Sarcoma and Bone Oncology in Dana-Farber Cancer Institute (DFCI), he initiated the development of National Cancer Centre Singapore’s efforts in developing a soft tissue/bone and gastrointestinal stromal tumor (GIST) sarcoma database; the first of its kind in Singapore. From this robust database system, the research team has analyzed and reported on various unique subsets of sarcomas, correlating preclinical findings with patient outcome measures. Additionally, Dr Quek serves as Principal Investigator in various Phase II/III studies testing new drug compounds in patients with advanced sarcomas and GIST.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Rajadurai, Victor Samuel  
MBBS, MD (Paeds), MRCP, DCH, FAMS

Adjunct Associate Professor, Duke-NUS Graduate Medical School Singapore
Head & Senior Consultant, Department of Neonatology, KK Women’s and Children’s Hospital
Clinical Associate Professor, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 6394 1228
Email: victor.Samuel@kkh.com.sg
Website:

Research Summary

Assoc Prof Rajadurai’s research interests include pulse oximetry of newborn, perinatal asphyxia, inhaled nitric oxide therapy, chronic lung disease of prematurity, neonatal nutrition, newborn screening and newer modes of neonatal ventilation.

Past and Current Duke-NUS Research Students

Shruthi Suryaprakash (Class of 2016)

Student Publications

NA
Rozen, Steve PhD

Associate Professor, Programme in Cancer and Stem Cell Biology, Duke-NUS Graduate Medical School
Director, Duke-NUS Centre for Computational Biology, Duke-NUS Graduate Medical School
Associate Professor Track V, Psychiatry and Behavioral Sciences, Duke University Medical Center

Contact: 6516 4945
Email: steve.rozen@duke-nus.edu.sg
Website: ResearchGate Profile

Research Summary

Our laboratory works in the areas of genome-scale biology and bioinformatics. We apply advanced computational and quantitative analysis to genome-scale data, especially next-generation sequencing data in pursuit of questions in cancer biology. Areas of particular interest are cancer classification, detection of signatures of mutagenic exposures in tumors, and the roles of alternative splicing in cancer.

In bioinformatics, we develop approaches for analyzing and interpreting high-dimensional, genome-scale data sets, such as those generated by next-generation sequencing and by gene-expression arrays.

Technologies for generating genome-scale data are improving exponentially and are increasingly central in biological research. In bioinformatics, our goal is to develop robust tools that can use these genome-scale data to generate new insights into biological processes.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Sabanayagam, Charumathi  MBBS, MD, MPH, PhD

Assistant Professor, SingHealth Duke-NUS Ophthalmology and Visual Sciences Academic Clinical Programme
Clinician Scientist, Singapore Eye Research Institute
Assistant Professor, Department of Ophthalmology, National University of Singapore

Contact: 6322 4541
Email: Charumathi.sabanayagam@seri.com.sg
Website: Google Scholar Profile

Research Summary

Dr. Charu's research is focused on the epidemiology of chronic kidney disease (CKD), age-related eye diseases, in particular diabetic retinopathy (DR) and age-related macular degeneration (AMD), and novel biomarkers in renal and retinal diseases. Currently, she is examining the association of novel biomarkers such as serum vitamin D, leptin, adiponectin and urinary isoprostanes with CKD and AMD in Asian adults. Separately, she is examining the longitudinal association of retinal microvascular abnormalities with onset, progression and adverse outcomes of CKD in Asian Indian adults. These projects are funded by NMRC (TA) and Duke-NUS (KMRA). She has published 66 peer reviewed papers (35 as first author and 9 as senior author). Her research work has been published in leading international journals including American Journal of Epidemiology, American Journal of Kidney Diseases, Diabetologia and Journal of Clinical Endocrinology and Metabolism.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Sabapathy, Kanaga PhD, FRCPath

Professor, Programme in Cancer and Stem Cell Biology, Duke-NUS Graduate Medical School
Director, Research, SingHealth Duke-NUS Oncology Academic Clinical Programme
Honorary Joint Professor, Department of Biochemistry, Yong Loo Lin School of Medicine, National University Singapore
Principal Investigator, Laboratory of Molecular Carcinogenesis, National Cancer Centre Singapore

Contact: 6436 8349
Email: cmrksb@nccs.com.sg
Website: -

Research Summary

The goal of our research is to understand the nature of molecular changes leading to carcinogenesis, so that efficient therapeutic strategies can be developed to eradicate cancerous cells. In order to achieve our goals, we are focusing on understanding the p53/p73 tumour suppressor and the c-Jun proto-oncogene pathways, which regulate cell-fate in response to a multitude of environmental/stress factors. All 3 gene-products are transcription factors involved in regulating gene expression, and hence, their functional status is critical in determining cellular fate.

Although p53 and p73 belong to the same family of tumour-suppressors, p53 is mutated in more than 50% of all human cancers whereas p73 is over-expressed in many of them. P73 is more complex as it is heavily spliced at the carboxy-terminus and the usage of an internal promoter in intron 3 results in the generation of a truncated protein (the delta N) that has oncogenic properties. We are focusing on understanding the regulation of both p53 and p73, particularly with reference to induction of cell death. In addition, the cause and consequence of overexpression of p73 in human cancers is being investigated. Both “knock-in” mouse models and mammalian genetic screens are being employed to address these questions.

The proto-oncogene c-Jun is an immediate-early gene that is activated by a plethora of signals. Expression of c-Jun has been shown to induce both cell death and proliferation. How c-Jun executes such opposite effects is still enigmatic. We are focusing on understanding how c-Jun cooperates with various co-activators in bringing about these effects. In addition, the differential regulation of c-Jun by the c-Jun-N-terminal kinases (JNKs) and others, as well as characterization of the roles of the different c-Jun N-terminal kinase (JNK) family members, are being undertaken.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Sahlén, Anders Olof  
**MD, PhD, MRCP**

Adjunct Associate Professor, Duke-NUS Graduate Medical School  
Consultant, Department of Cardiology, National Heart Centre Singapore  
Associate Professor of Cardiology, Karolinska Institutet, Stockholm, Sweden

Contact: 6704 8870  
Email: anders.olof.sahlen@nhcs.com.sg  
Website: -

**Research Summary**

Dr. Sahlén trained and worked in Sweden and England as a Noninvasive Cardiologist. His research interests include different aspects of echocardiography including clinical echo and its methodology, as well as its application to circulatory physiology. His recent work includes various aspects of registry research and, after joining National Heart Centre Singapore in January 2014 as a Consultant, Dr. Sahlén has become involved the development of clinical Cardiology registries in Singapore. He is currently Deputy Scientific Lead for the NHRIS Core for Biostatistics and Databases, and involved in registry research both in Singapore and overseas. He co-supervises a registered PhD student at the Karolinska Institutet in Sweden and has earlier supervised both a PhD student (dissertation in 2012) and two graduate students (2011). He is the coordinating investigator for a large registry study looking at antithrombotic treatment in ACS and is a co-investigator for several other studies.

**Past and Current Duke-NUS Research Students**

NA

**Student Publications**

NA
Saw, Seang Mei  MBBS, MPH, PhD, FAMS, FARVO

Professor, Program in Neuroscience and Behavioral Disorders, Duke-NUS Graduate Medical School Singapore
Professor, Epidemiology, Saw Swee Hock School of Public Health, National University of Singapore
Head, Myopia Unit, Singapore Eye Research Institute

Contact: 6516 4976
Email: seang_mei_saw@nuhs.edu.sg
Website: ResearchGate Profile

Research Summary

Epidemiology, gene-environment interaction, genetics of myopia and other eye diseases. Epidemiology, and quality of life of chronic diseases.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Sia, Alex Tiong Heng  *MBBS, MMed (Anaes), FAMS*

Adjunct Professor, Duke-NUS Graduate Medical School Singapore  
Adjunct Professor, NUS Faculty of Engineering  
Clinical Associate Professor, Yong Loo Lin School of Medicine, National University of Singapore  
Senior Consultant, Department of Women’s Anaesthesia, KK Women’s & Children’s Hospital

Contact: 6394 2319  
Email: alex.sia.th@kkh.com.sg  
Website: [Google Scholar Profile](#)

**Research Summary**

The principal area of Alex Sia’s research specialization is in the individualization of pain chronic and labour pain management. There are 2 components to this – research on the possible predictors of the one's propensity to developing chronic pain after surgery, including genetic and environmental factors as well as the use of smart closed loop medication for pain management. The other area of his research is in the maintenance of haemodynamic stability in the perioperative period by exploring the contributions of genetic variations of the adrenoceptors and by employing a novel system of drug administration as a therapeutic tool.

**Past and Current Duke-NUS Research Students**

Tan Hon Sen (Class of 2013)  
Li Shengjin (Class of 2014)  
Wang Hao (Class of 2015)  
Zhang Qian Pian (Class of 2015)  
Lee Man Xin (Class of 2016)

**Student Publications**


Silver, David L. PhD

Associate Professor, Programme in Cardiovascular and Metabolic Disorders, Duke-NUS Graduate Medical School

Contact: 6601 2172
Email: david.silver@duke-nus.edu.sg
Website: Google Scholar Profile

Research Summary

Our research group is focused on molecular mechanism of lipid transport, the function of lipids in blood-brain barrier function and brain growth, and more recently autoimmune disorders. A particular focus of our research is on studying the function of Mfsd2a, a transporter we identified to be expressed at the blood-brain barrier that transports lipids essential for brain growth and function in humans. This recent work has provided both fundamental information on human brain growth and function and a platform to develop novel therapeutic agents to treat neurological disease. Our laboratory is multidisciplinary utilizing biochemistry, molecular genetics in mice and humans, and molecular and cellular biology. Ultimately, our goals are to translate our findings into potential therapeutic treatments for neurological diseases and develop novel clinical nutrition for improving brain growth and function. Students and research fellows working in the lab can expect to acquire skills in molecular biology, protein biochemistry, lipid biochemistry, in vitro cell culture assays, and in physiological and biochemical analyses of genetically engineered mice. Prof. Silver's research has been published in top-tier scientific journals such as Nature, Nature Genetics, Journal of Clinical Investigation, and Proceedings of the National Academy of Sciences, USA.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Smith, Gavin J. PhD, MASM

Associate Professor, Programme in Emerging Infectious Diseases, Duke-NUS Graduate Medical School

Contact: 6601 1109
Email: gavin.smith@duke-nus.edu.sg
Website: Google Scholar Profile

Research Summary

My research integrates ideas from a number of different fields including evolutionary genetics, virology, ecology, and infectious disease epidemiology. I am primarily interested in the ecology and evolution of viruses that jump from animals to humans (i.e. zoonotic diseases), particularly from wild animals and populations of farmed animals in developing countries. My research aims to characterize viruses from these animal reservoirs and to discover what virological and ecological characteristics may increase the risk of inter-species transmission, and to understand how novel human diseases and pandemics emerge from these animal reservoirs. To achieve this I conduct human and animal disease surveillance throughout South East Asia, to isolate viruses and characterize them both genetically and phenotypically and use this data in large-scale computational analyses. Other areas of research in my laboratory include the molecular epidemiology of human respiratory pathogens and the evolution and ecology of both bacterial and viral pathogens in bats and in small mammals such as rats.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Sng, Ban Leong  MBBS (S’pore), M Med (Anaes), FANZCA (Anaes), FFPMANZCA, MCI

Adjunct Assistant Professor, Duke-NUS Graduate Medical School
Deputy Head and Senior Consultant, Department of Women’s Anaesthesia, KK Women’s & Children’s Hospital

Contact: 6394 1081
Email: sng.ban.leong@kkh.com.sg
Website: ResearchGate Profile

Research Summary

Dr Sng Ban Leong, is the Deputy Head and Senior Consultant at the KK Women’s and Children’s Hospital, Women’s Anaesthesia. He is an Assistant Professor at the Duke-NUS Graduate Medical School and also a Clinician-Scientist Mentor and Core Faculty in the Singhealth Anaesthesiology Residency Programme. He recently received the National Medical Research Council (NMRC) Clinical Trials Grant for obstetric epidural delivery system research, NMRC Transition Award for chronic pain research and Singhealth Foundation Grant for vasopressor delivery system research. He completed the Masters in Clinical Investigation with the National Research Foundation-MOH Healthcare Manpower Development Plan award. His research interests include obstetric epidural analgesia, closed-loop systems, chronic post-surgical pain and the use of supraglottic airway for general anaesthesia in Caesarean section.

Past and Current Duke-NUS Research Students

Tan Hon Sen (Class of 2013; Co-mentor)  Lee Man Xin (Class of 2016; Co-mentor)
Li Shengjin (Class of 2014; Co-mentor)  Pham Thi Phuong Tu (Class of 2016)
Wang Hao (Class of 2015; Co-mentor)  Tay Wen Shu, Terence (Class of 2016; Co-mentor)
Zhang Qian Pian (Class of 2015; Co-mentor)

Student Publications


Soo, Khee Chee  MBBS, MD, FRACS, FACS, FAMS

Senior Vice Dean, Clinical, Academic and Faculty Affairs, Duke-NUS Graduate Medical School Singapore
Benjamin Sheares Professor of Academic Medicine, Duke-NUS Graduate Medical School Singapore
Academic Chair, SingHealth Duke-NUS Oncology Academic Clinical Programme
Director, National Cancer Centre Singapore
Deputy CEO, Research and Education, Singapore Health Services
Visiting Senior Consultant, Department of Surgery, Singapore General Hospital
Professor, Surgery, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 6516 1766
Email: kheechee.soo@duke-nus.edu.sg
Website:

Research Summary

Prof Soo has wide ranging research interests in the conduct of clinical trials for new cancer treatments as well as in the field of biophotonics and its role as a new imaging modality for the early detection of cancer.

Past and Current Duke-NUS Research Students

Maryanne Chew Romero (Class of 2013)
Li Ke (Class of 2016)

Student Publications

NA
St. John, Ashley L.  \textit{PhD}

Assistant Professor, Programme in Emerging Infectious Diseases, Duke-NUS Graduate Medical School

Contact: 6601 1096  
Email: ashley.st.john@duke-nus.edu.sg  
Website: ResearchGate Profile

Research Summary

The research program in the St. John lab is currently focused on studying how the initial inflammatory events of infection shape downstream immune protection or pathology, particularly in the context of viral pathogens such as dengue virus. Opportunities for basic, translational, and clinical research projects are available. This lab employs approaches including the use of animal models and techniques in cellular immunology to functionally test the impact of immune mediators on immunosurveillance for viral pathogens, cellular activation and trafficking within lymph nodes, and protective immunological memory and immune pathology. Studying primary immune processes and immunosurveillance events for pathogens that impact adaptive immunity is a key aim of our work and one that has implications for vaccine design and the development of novel immunotherapeutics.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Sung, Sharon Cohan  PhD

Assistant Professor and Deputy Head, Clinical and Behavioural Assessment Core, Duke-NUS Graduate Medical School Singapore

Senior Clinical Psychologist, Department of Child and Adolescent Psychiatry, Institute of Mental Health, Singapore

Contact: 6576 7365
Email: sharon.sung@duke-nus.edu.sg
Website: ResearchGate Profile

Research Summary

My research is focused on improving identification, assessment, and treatment for mood and anxiety disorders throughout the lifespan, with an emphasis on empirically supported treatment approaches (e.g., cognitive behavioral and mindfulness-based therapies). Current clinical research projects include a study of virtual-reality exposure therapy for children with selective mutism, a study examining patterns of mood and anxiety disorders in parents of clinically-referred youth, and a pilot study to determine optimal screening methods for emergency medicine patients with panic disorder.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Tai, Bee Choo PhD

Associate Professor, Saw Swee Hock School of Public Health, National University of Singapore

Contact: 6516 4973
Email: ephtbc@nus.edu.sg
Website:

Research Summary

- Competing risks and correlated multiple failure time data
- Design and analysis of clinical trials

Past and Current Duke-NUS Research Students

Daniel He Xin-Ping (Class of 2012)

Student Publications

NA
Tai, E Shyong  MD

Associate Professor, Programme in Cardiovascular and Metabolic Disorders, Duke-NUS Graduate Medical School
Senior Consultant and Head, Division of Endocrinology, National University Health System
Associate Professor, Division of Endocrinology, Department of Medicine, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 6772 4371
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Website: ResearchGate Profile

Research Summary

I am interested in obesity and metabolic diseases from a variety of angles. 1) the pathogenesis of these disorders including genetics diet, physical activity, psychosocial distress; 2) the identification of individuals at high risk of these disorders; and 3) the impact of these disorders in terms of chronic complications, health care utilization, quality of life and death.

I am involved in human studies which may take 2 major forms

1. Large epidemiologic surveys with extensive phenotyping which exploit biochemistry and genomics platforms

Small studies involving intensive physiologic measurements including hyperinsulinemic clamps, imaging and meal challenges.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Research Summary

The Interventional Radiology Centre at SGH is the largest interventional radiology service in the region, and is very active in research, with several investigator initiated prospective clinical trials in progress. The high volume of workload means that there is a huge bank of data available for retrospective studies, looking at outcomes of interventional radiology procedures.

The Duke-NUS student will find numerous opportunities in participate in research in the exciting field of interventional radiology. The research projects will also be designed such that the one year timeline will be sufficient for the student to complete the project.

Among the areas of research available are:

1. Hemodialysis access interventions and outcomes.
3. Interventional radiology techniques in the field of Oncology and their outcomes.
4. Interventional radiology techniques in the field of urology.
5. Interventional radiology techniques in the field of obstetrics and gynecology.

Past and Current Duke-NUS Research Students

Wong Hui Lin Claudia (Class of 2015)
Kevin Khaw Beng Chin (Class of 2016)

Student Publications

NA
Tan, Ene Choo PhD

Adjunct Associate Professor, SingHealth Duke-NUS Paediatrics Academic Clinical Programme
Chief Research Scientist, KK Women’s and Children’s Hospital

Contact: 6394 3792
Email: tan.ene.choo@kkh.com.sg
Website: ResearchGate Profile

Research Summary

Our group is interested in the genetics of congenital disorders and clinically significant traits. Phenotypes of interest include congenital anomalies, developmental disorders, pain perception and neuropsychiatric disorders. Current projects include the detection of genetic abnormalities which include chromosomal imbalance and the identification of mutations and polymorphisms which contribute to specific phenotypic presentations. Besides bench research, there is also opportunity for bioinformatics and genome analysis work.

Students can be involved in different stages of research such as performing laboratory experiments and initial sequence or gene expression data generation, analysis of new or existing lab data, discovery work from mining of data, correlation of clinical data with laboratory findings, and creation of databases for specific genes/syndromes, phenotypic abnormalities and associated genetic alterations. Projects may be entirely laboratory-based, clinical data collection or data analysis.

Past and Current Duke-NUS Research Students

Tay Wen Shu, Terence (Class of 2016)

Student Publications

NA
Tan, Eng King  MBBS, MRCP(UK), FRCP(Edin), FAMS  
(Neurology)

Professor and Deputy Director, Programme in Neuroscience and Behavioural Disorders, Duke-NUS Graduate Medical School Singapore

Academic Vice Chair, Research, SingHealth Duke-NUS Neuroscience Academic Clinical Programme

Senior Consultant, Department of Neurology, National Neuroscience Institute (SGH Campus)

Research Director, National Neuroscience Institute (SGH Campus)

Contact: -
Email: tan.eng.king@sgh.com.sg
Website: -

Research Summary

Dr Tan leads a consortium in translational clinical research in Parkinson’s disease and related neurodegenerative disorders. PD is the most common neurodegenerative condition seen at the National Neuroscience Institute and is the main neurodegenerative condition where significant impact on patients’ quality of life can be achieved with improved care. Dr Tan’s group is involved in the identification of genes involved in Parkinson’s disease (PD) and related degenerative diseases with a focus on whole-genome and exome analysis and massive parallel sequencing. Building on these potential genetic discoveries, his group investigates the interaction of the various molecular pathways using various in vitro and in vivo models (Mouse, Drosophila, Zebra Fish), with the aim at identifying early markers and to explore potential therapeutic interventions through the selection of viable targets. The program involves participation from >40 local and international research and clinical institutions and pharmaceutical companies. The team is also involved in various pharmaceutical drug trials. Students and trainees in the program are exposed to a wide spectrum of laboratory and clinical (bench to bedside) research activities.

Past and Current Duke-NUS Research Students

Yong Mind Hui (Class of 2012)  Swe Swe Thet Paing (Class of 2014)
Lim Jing Wei (Class of 2012)  Cheng Yu-Ching (Class of 2015)
Heng Xiao Wei (Class of 2014)

Student Publications

NA
Tan, Hiang Khoon  
MBBS, FRCSEd, MD, PhD, FAMS

Adjunct Assistant Professor, Dukes NUS Graduate Medical School Singapore
Senior Consultant and Deputy Head, Department of Surgical Oncology, National Cancer Centre Singapore
Director and Assistant Professor, Community Outreach and Philanthropy, SingHealth Duke-NUS Oncology Academic Clinical Programme
Academic Vice Chair (Research) and Assistant Professor, SingHealth Duke-NUS Surgery Academic Clinical Programme

Contact: 6436 8093
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Website: -

Research Summary

My research interest is in the prognostic/risk stratification in head and neck carcinomas. I am particularly interested in the utilization of epigenetic/genetic changes to predict metastatic potential or treatment response. I am also interested in clinical trials that can answer pertinent clinical questions. Furthermore, the conduct of these trials confers excellent opportunities to execute correlation translational studies to address gaps of knowledge that often exists between advances in bench top science and bedside experience. Last but not least, I am an early adaptor of new surgical techniques or devices that may improve the surgical outcome of Head and Neck patients.

Past and Current Duke-NUS Research Students

Nguyen Thien Khanh (Class of 2014)

Student Publications

NA
Tan, Iain Bee Huat MBBS, MRCP (UK), PhD

Consultant, Department of Medical Oncology, National Cancer Centre Singapore
Program Director, GI Oncology Research Program, Department of Medical Oncology, National Cancer Centre Singapore
Disease Champion, GI Cancers, SingHealth / Genome Institute of Singapore POLARIS Program

Contact: 6436 8574
Email: iain.tan.b.h@nccs.com.sg
Website: Google Scholar Profile

Research Summary

My main area of clinical specialization is Colorectal and Stomach Cancer. My translational research focuses on 3 areas:

1. **Real Time diagnostics (Developing –omics assays for clinical deployment):** We use omics technology to develop “fit-for-purpose” -omics technologies to transform current and future patient management across the clinical continuum of care. We use Non-invasive blood based assays: We perform real-time assessment of the evolution of disease biology and interactions with time and treatment with genomic assays performed on blood samples. Simply put, circulating assays enable us to evaluate disease biology on a regular and non-invasive basis.

2. **Metastasis: (co-led with Dr. Clarinda Chua, NCCS)** We use patient derived tumor models to pathways that abrogate metastasis.

3. **Immuno-oncology:** A collaborative effort with deep immunophenotyping and cytotoxicity experiments with patient derived immune cells and tumor models

Beyond assay development, I am also actively involved in running clinical trials for Digestive Track cancers.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Tan, Kok Hian  MBBS, FRCOG, M Med (O&G), FAMS, MBA

Senior Associate Dean, Academic Medicine, Duke-NUS Graduate Medical School
Singapore
Professor, SingHealth Duke-NUS Obstetrics & Gynaecology (OBGYN) Academic Clinical Programme
Group Director, Academic Medicine, SingHealth
Head, Perinatal Audit & Epidemiology, KK Women’s and Children's Hospital (KKH)
Senior Consultant, Maternal Fetal Medicine, KK Women’s and Children's Hospital

Contact: 6394 1319
Email: tan.kok.hian@kkh.com.sg
Website: -

Research Summary

Dr Tan is interested in improving health and pregnancy outcomes for mothers by creating new ways of predicting, assessing and reducing adverse risk factors and outcomes. His research interests include Perinatal Epidemiology, Maternal Fetal Medicine, Cochrane Pregnancy and Childbirth Reviews, Pregnancy Cohort Studies, Extracellular Vesicles, Exosomes & Biomarkers.

Opportunities for students are Perinatal & Maternal Fetal Medicine Epidemiology projects relating to antenatal & postnatal practices as well as adverse outcomes like birth defects, preeclampsia and preterm labour. These are based on KKH databases and high obstetric patient load. Other opportunities include involvement in large birth cohorts studies like GUSTO & NORA on pregnancy biomarkers; and collaborative studies with A*Star and NTU on extracellular vesicles; and with Cochrane Collaboration on systematic reviews.

Past and Current Duke-NUS Research Students

Chen Pin Yu, Petty (Class of 2015)
Feng Tingting (Class of 2016)

Student Publications

NA
Tan, Louis Chew-Seng  MBBS, MRCP (UK), FAMS  
(Neurology), FRCP (Edin)

Adjunct Associate Professor, SingHealth Duke-NUS Neuroscience Academic Clinical Programme
Senior Consultant, Department of Neurology, National Neuroscience Institute (TTCH Campus)
Co-Director, Parkinson’s Disease and Movement Disorders Centre, USA National Parkinson Foundation, International Centre of Excellence
Director, Clinical Research (NNI-TTSH Campus), Neuroscience Academic Clinical Program

Contact: 6357 7171
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Website: -

Research Summary

The Parkinson’s disease and Movement Disorders Programme at NNI is a translational research programme that seeks to understand the cause, clinical characteristics, and disease progression of these disorders so as to enable better treatment and management for these conditions. One major research component is to understand the progression of PD in our population through the use of our PD database. The database which contains more than 2,770 PD patients was established in the year 2002 and contains prospectively collected clinical and treatment data from the initial and subsequent follow-up visits of all PD patients evaluated at the Centre. We have also commenced in 2014 a prospective PD longitudinal (PALS) study where newly diagnosed PD patients and non-PD controls are followed-up for assessment of cognitive function, motor signs and non-motor symptoms. MRI brain scans, serum and DNA are also analysed to perform correlation studies and identify biomarkers for disease progression.

Past and Current Duke-NUS Research Students

Reinoso Marie Giselle Cordero (Class of 2014)
Wee Jian-Ting, Natalie (Class of 2016)

Student Publications


Tan, Patrick  MD, PhD

Professor, Programme in Cancer and Stem Cell Biology, Duke-NUS Graduate Medical School
Senior Group Leader, Genome Institute of Singapore
Senior Principal Investigator, Cancer Science Institute of Singapore
Adjunct Principal Investigator, National Cancer Centre Singapore

Contact: 6516 1783
Email: gmstanp@duke-nus.edu.sg
Website: -

Research Summary

Genomic Oncology of Stomach Cancer

Our research focuses on developing genomic approaches to unlock the molecular and clinical diversity of gastric cancer (aka stomach cancer)- the second highest cause of global cancer mortality. At present, most gastric cancer (GC) patients are clinically treated with uniform "one-size-fits-all" surgery and chemotherapy regimens. However, individual gastric tumors can often vary in their genetic aberrations, which can regulate disease aggressiveness and treatment response. To improve clinical outcomes for GC patients, our group is developing methods to classify different GC patients into distinct subgroups based on their molecular profiles, identifying specific “Achilles Heel” genes required for cancer development in each subgroup, and translating these discoveries into optimized and tailored subgroup-specific treatments.

Over the past decade, our group has made important contributions to the GC field. We have defined transcriptional subtypes of GC (Tay et al, 2003; Tan et al., 2011) and translated these findings into an industry- international multi-centre clinical trial. We identified the first recurrent fusion genes in GC (BRAF fusions and CD44-SLC1A2) (Palanisamy et al., 2010 in collaboration with Arul Chinnaiyan; Tao et al., 2011), and reported the first comprehensive studies of somatic copy number alterations and epigenetic alterations in GC (Deng et al., 2012; Zouridis et al., 2012). In collaboration with Prof Teh Bin Tean and A/Prof Steve Rozen, we have also reported pioneering studies in applying next-generation sequencing to GC and other cancers endemic to Asia (Zang et al., 2012; Ong et al., 2012). Our group is a core pillar of the Singapore Gastric Cancer Consortium, a national multi-disciplinary team of >20 leading clinicians and researchers working together to improve our basic and clinical understanding of GC.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Tan, Swee Yaw  MBchB (Edin), MRCP (UK), FESC, FAMS

Adjunct Assistant Professor, Duke-NUS Graduate Medical School
Senior Consultant, Department of Cardiology, National Heart Centre Singapore
Director, Cardiovascular Rehabilitation and Preventive Cardiology, National Heart Centre Singapore

Contact: 6436 7541
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Website: ResearchGate Profile

Research Summary

Cardiac CT
Cardiac calcium scoring
Cardiac rehabilitation and epidemiology

Past and Current Duke-NUS Research Students

Ignasius Aditya Jappar (Class of 2012; Co-mentor)
Rachel Ng Qiao Ming (Class of 2013; Co-mentor)
Tay Yu Ling  (Class of 2014; Co-mentor)
Goh Jian Min, Jasmine (Class of 2016; Co-mentor)
Tan Shih Jia, Janice (Class of 2016)

Student Publications

Tan, Thiam Chye  MBBS (S'pore), MMed (O&G) (S'pore)

Associate Professor, SingHealth Duke-NUS Obstetrics & Gynaecology(Obgyn) Academic Clinical Programme
Deputy Campus Director, Education Office, KK Women's and Children's Hospital
Head and Senior Consultant, Obstetrics & Gynaecology (Inpatient Services), KK Women's and Children's Hospital

Contact: -
Email: tan.thiam.chye@kkh.com.sg
Website: -

Research Summary

My area of research is clinical research in benign diseases in Obstetrics and Gynaecology, especially in reproductive endocrinology, first trimester miscarriages as well as wound healing studies.

Past and Current Duke-NUS Research Students

Ee Tat Xin (Class of 2011; Co-mentor) Ku Chee Wai (Class of 2013; Co-mentor)
Koh Hui Shan (Class of 2011; Co-mentor) He Song (Class of 2015)
Kouk Leong Jin (Class of 2012; Co-mentor) Siew Jia Yun Shayna (Class of 2015)
Neo Ghim Hoe (Class of 2012; Co-mentor) Lek Sze Min Francis (Class of 2016)
Wu Lin Chieh (Class of 2013; Co-mentor)

Student Publications

Tang, Mark Boon Yang MBBS, MRCP (UK), MMed(Int Med), FRCP (Edin), FAMS

Senior Consultant, National Skin Centre Singapore
Director of Research, National Skin Centre Singapore
Head, Eczema Clinic, National Skin Centre Singapore

Contact: 6253 4455
Email: marktang@nsc.gov.sg
Website: -

Research Summary

My research interests include:

1. Atopic eczema – This is a high burden, highly prevalent chronic inflammatory skin disease affecting up to 20% of school going children in Singapore. We have an ongoing collaboration with the Prof Birgit Lane’s group at the Institute of Molecular Biology, A*STAR, focused on investigating the genetic basis of atopic eczema. In particular, our work has been vital in elucidating key novel, population specific mutations in the filaggrin gene, the strongest genetic risk factor for atopic eczema. Our large cohort of atopic eczema patients remain a valuable resource for ongoing basic science and clinical research projects.

2. Chronic ulcer and wound healing – I have ongoing collaborative research projects with researchers at NTU focused on basic science work and the development of new wound dressing products.

3. Immunobullous diseases – I am involved in several research projects investigation various aspect of autoimmune blistering skin diseases. We have a large cohort of patients with various immunobullous diseases which will allow further research work in this area.

Cutaneous T cell lymphoma – This is a niche area of research for us as we are the major referral centre for such cases in Singapore. We have an ongoing database and conduct mainly epidemiological research in this area.

Past and Current Duke-NUS Research Students

Sophie Carrie Cai Shan (Class 2014)

Student Publications

Tang, Phua Hwee MBBS, FRCR, MMed Diagnostic Imaging

Adjunct Assistant Professor and Research Director, Adult and Paediatric Body Imaging, SingHealth Duke-NUS Radiological Sciences Academic Clinical Programme
Senior Consultant, Department of Diagnostic and Interventional Imaging, KK Women's and Children's Hospital, Singapore

Contact: 6394 2284
Email: tang.phua.hwee@kkh.com.sg
Website: -

Research Summary

Dr Tang aims to improve the detection and diagnosis of disease by developing, evaluating and implementing new imaging methods in a safe and cost effective manner, particularly in the field of magnetic resonance imaging (MRI). Her recent work has entailed setting up a clinical cum research 3T MRI scanner in the Department of Diagnostic and Interventional Imaging on which research will be carried out with collaborators from the Singapore Bioimaging Consortium, A*STAR. She is a recipient of grants from SingHealth Foundation, Singapore Radiological Society and Khoo Clinical Scholars Pilot Awards for her studies in the evaluation of Arterial Spin Labelling and Diffusion Tensor Imaging in Children with Focal Epilepsy as well as the Evaluation of Magnetic Resonance Spectroscopy in the diagnosis of Soft Tissue Masses in Children. Dr Tang’s research projects have won several awards both locally and overseas.

Past and Current Duke-NUS Research Students

Hou Wenlu (Class 2014)
Wei Lei (Class 2015)
Pham Thi Phuong Tu (Class of 2016)

Student Publications

NA
Research Summary

My current research focus is on interventional radiology. I am running several projects related to lower limb angioplasty (including a randomize trial of drug eluting balloon angioplasty vs conventional angioplasty for below knee peripheral arterial disease), endovascular aortic repairs, dialysis access interventions and interventional oncology. I am also working with NTU to develop a novel biodegradable embolization plug which has begun in vivo testing in animal models. My various research projects are in various phases of implementation and this would enable the student to experience the entire research cycle from start to end in a short time frame. The student will have the opportunity to propose a research question, do the relevant literature review and statistical work up, write up a grant proposal, make an IRB submission, recruit patients, assist in the interventions, patient follow up, manage a database, data analysis, submit abstracts to scientific meetings, poster/oral presentations and finally writing up the manuscript for publication.

Past and Current Duke-NUS Research Students

Syed Aftab (Class 2013)
Tan Zehao (Class 2015)

Student Publications


Tay, Shian Chao Vincent  
MBBS, FRCS (Edin & Glasg), FAM (Hand Surg), MBiomedSci (Mayo)

Adjunct Associate Professor, Duke-NUS Graduate Medical School Singapore  
Senior Consultant Hand Surgeon and Director of Wrist, Singapore General Hospital  
Program Director, Singhealth Hand Surgery Residency Program  
Director, Biomechanics Laboratory @ Academia  
Director, Biomechanics Research, Singhealth Surgery Academic Clinical Programme  

Contact: 6321 4588  
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Website: -

Research Summary

Dr. Tay is interested in translational and clinical research that has impact on clinical and surgical practice. Besides numerous retrospective clinical studies, Dr Tay has ongoing prospective studies and randomized clinical trials on trigger finger and other conditions of the hand and wrist.

In the laboratory, he is involved in the following – investigation into carpal and distal radioulnar joint instability, flexor tendon research, study of trigger finger pathoanatomy and pathomechanics using ultrasound, synovial fluid kinematics of the wrist joint, surgical implant and surgical suture performance, to name a few.

Past and Current Duke-NUS Research Students

Liu Xuan (Class 2014)  
Hay Aik Siew Robyn (Class 2015)  
Leow Su Chen, Geraldine (Class 2016)

Student Publications


**Teh, Bin Tean** *MD, PhD*

Professor, Programme in Cancer and Stem Cell Biology, Duke-NUS Graduate Medical School

Principal Investigator, NCCS-VARI translational research laboratory, National Cancer Centre Singapore

Senior Principal Investigator, Cancer Science Institute of Singapore, National University Singapore

**Contact:** 6601 1324  
**Email:** teh.bin.tean@singhealth.com.sg  
**Website:** -

**Research Summary**

Recent whole-genome and whole-exome sequencing efforts have revealed that chromatin enzymes (CE) are among the most frequently mutated gene class in both solid and hematological malignancies. We have previously identified CE mutations in human cancers including those of kidney (Daglish, et al., Nature, 2010; Varela et al., Nature, 2011), bile duct, (Ong et al., Nature Genet, 2012; Chan-on et al., 2013), stomach (Zang et al., Nature Genet, 2012) and urothelial cancer (Song et al., Sci Transl Med, 2013). These mutations include loss-of-function (LOF) mutations in CE such as PBRM1, ARID1A, MLL3, SETD2, and UTX. To date, whether these mutated genes can serve as potential therapeutic targets remain unknown. Our laboratory focuses on synthetic lethality studies and drug screening using cancer cell lines harbouring these mutations. Using *in vitro* and *in vivo* cancer models, we also study the effects of CE inhibitors and their mechanism of action.

**Past and Current Duke-NUS Research Students**

Jang Jia Hui Isabelle (Class of 2014)  
Koh Kay Nguan, Kelvin (Class of 2016; Co-mentor)

**Student Publications**

NA
Tenen, Daniel MD

Director, Cancer Science Institute of Singapore, National University of Singapore
Programme Leader and Senior Principal Investigator, Cancer Stem Cells Programme, Cancer Science Institute of Singapore
Distinguished Professor of Medicine, National University of Singapore

Contact: 6516 1159
Email: daniel.tenen@nus.edu.sg
Website: ResearchGate Profile

Research Summary

Professor Tenen’s laboratory focuses on transcription factors and gene regulation, and their relationship to normal differentiation and cancer. His laboratory has (1) characterized transcription factors which play a role in the differentiation of hematopoietic stem cells into different specific lineages, with particular focus on myeloid (granulocyte and monocyte) differentiation in normal and leukemic cells; and (2) isolated and characterized regulatory elements of genes which are expressed at different stages of myeloid differentiation including CD34, a stem cell specific gene expressed only in the earliest hematopoietic progenitors, and two master transcription factors which are regulators of myeloid development: the Ets factor PU.1, and C/EBP alpha. The results have collectively demonstrated a role for these factors in the myeloid specific expression of a number of important myeloid genes, including the three myeloid CSF (GM, M, and G) receptors; and expression and knockout studies of PU.1 and C/EBP alpha show they play a major role in development of specific myeloid lineages. Professor Tenen currently places focus on understanding regulation, signal transduction pathways, and interacting partners of transcription factors and their role in stem cells. He has successfully identified mutations and specific abnormalities in expression and function of C/EBP alpha and PU.1 in specific subtypes of myeloid leukemias. Another major effort by his laboratory focuses on further characterization of the role of C/EBP alpha and PU.1 in leukemogenesis as well as developing drugs and other therapies specifically aimed at these factors. His long term goals are to understand the abnormalities seen in cancer, in which differentiation is blocked. His recent studies have investigated the role of SALL4 in leukemia and solid tumors as well as the role of noncoding antisense RNAs in gene regulation. Techniques in his laboratory include analysis of regulation, function, and signaling of transcription factors, transgenic and knockout studies, and gene therapy applications.

Past and Current Duke-NUS Research Students

Wong Sook Yee (Class of 2011)

Student Publications

NA
Teo, Melissa Ching Ching  *MBBS, MMed (Surg), FRCSEd, FAMS, MPH*

Adjunct Associate Professor, Duke-NUS Graduate Medical School Singapore  
Director, Strategic Initiatives, SingHealth Duke-NUS Oncology Academic Clinical Programme  
Director, Centre for Peritoneal and Pelvic Disease  
Head & Senior Consultant, Department of Surgical Oncology, National Cancer Centre Singapore  
Visiting Consultant, Department of General Surgery, Singapore General Hospital  
Visiting Consultant, Department of Gynaecologic Oncology, KK Women's and Children's Hospital  
Clinical Senior Lecturer, Yong Loo Lin School of Medicine, National University of Singapore

**Contact:** 6436 8283  
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**Website:**

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**Research Summary**

My current research interests include

1) Gastrointestinal cancers and peritoneal metastases  
2) Pelvic malignancies  
3) Retroperitoneal sarcomas  
4) Gastrointestinal Stromal Tumours (GIST)  
5) Melanomas

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**Past and Current Duke-NUS Research Students**

Koh Kay Nguan,Kelvin (Class of 2016)

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**Student Publications**

NA
Thumboo, Julian  MBBS (S'pore), MMed (Int Med), MRCP (UK), FAMS (Rheumatology), FRCP (Edin)

Professor, Programme in Health Services and Systems Research, Duke-NUS Graduate Medical School
Academic Vice Chair, Research, SingHealth Duke-NUS Medicine Academic Clinical Programme
Senior Consultant and Head, Department of Rheumatology & Immunology, Singapore General Hospital
Adjunct Professor, Department Of Medicine, Yong Loo Lin School Of Medicine, National University of Singapore

Contact: 6326 6893
Email: julian.thumboo@sgh.com.sg
Website: -

Research Summary

Prof Thumboo's research interest is in the areas of Rheumatology, Systemic Lupus Erythematosus and Osteoarthritis and Patient Reported Outcomes.

Past and Current Duke-NUS Research Students

Celeste Ong Lay Kheng (Class of 2013)
Esther Low Su Hui (Class of 2014)
Sun Wenxin (Class of 2014)
Heng Li-Mei Lisa (Class of 2016)
Huang Youyi (Class of 2016; Co-mentor)
Rahul Jawa (Class of 2016; Co-mentor)

Student Publications

NA
Dr Toh's interests are in gastrointestinal cancers and cell and immunotherapy. He leads the Cancer Vaccine and Cell Therapy Laboratory at the NCC as an Associate Investigator and has obtained 10 competitive grant awards. His projects revolve around clinical trials in reduced intensity blood stem cell transplant, dendritic cell cancer vaccines, adoptive T cell therapy, cytokine therapy and new drugs and targeted therapy for solid tumours, especially for hepatocellular carcinoma. He is also studying the stromal, biomarker discovery and immune signatures in hepatocellular carcinoma.

In 2009, he was recognized by being awarded the National Clinician Scientist Award for his ongoing work in using adoptive T cell therapy in a novel clinical study in patients with advanced nasopharyngeal cancer. His postdoctoral fellow, Dr Marissa Teo, is the first Singaporean to be awarded the International UNESCO-L’Oreal Women in Science Fellowship Award for the work on adoptive T cell therapy. He is also a Council Member of the Singapore Medical Association (SMA) and Editor, SMA News. He has been past President of the Singapore Society of Oncology and Past Chairman, Chapter of Medical Oncology, Academy of Medicine.
Tong, Louis Hak Tien  MBBS(S’pore), FRCS(Ed), DM(Nott), PhD(S’pore)

Associate Professor, Duke-NUS Graduate Medical School Singapore
Senior Consultant, Corneal and External Eye Disease Service, Singapore National Eye Center
Head, Ocular Surface Research Group, Singapore Eye Research Institute
Co-Head, Ocular Inflammation & Immunology Research Group, Singapore Eye Research Institute
Head, Research Training & Development, Singapore Eye Research Institute
Adjunct Associate Professor, Yong Loo Lin School of Medicine, National University of Singapore

Contact:
Email: Louis.tong.h.t@snec.com.sg
Website: Google Scholar Profile

Research Summary

Dr Tong conducts clinical research on dry eye patients with a focus on new therapeutics (eg, mucomimetics, autologous plasma tears) and new diagnostic modalities (eg, tear proteomics, Meibomian gland imaging). His recent work includes the translational in-vitro and in-vivo research into ocular surface inflammation, and the immunology of autoimmune diseases. His recent research also involves transcript profiling, microRNA and signal transduction in pterygium. He is developing a network of physicians and scientists who participate in multidisciplinary solutions to ocular surface disease. Dr Tong is PI of the CSA, a MOH and a few industry grants, co-PI of 2 other NMRC grants and a Singhealth grant, authored over 150 papers, 9 book chapters and sits on the diagnosis subcommittee of the international dry eye workshop II.

Past and Current Duke-NUS Research Students

Melbin Emerson Sy Co (Class of 2013)
Sim Hui Shan (Class of 2014)

Student Publications

Van Dongen, Antonius PhD

Associate Professor, Programme in Neuroscience and Behavioural Disorders, Duke-NUS Graduate Medical School Singapore

Contact: 6516 7075
Email: antonius.vandongen@duke-nus.edu.sg
Website: www.vandongen-lab.com

Research Summary

The VanDongen laboratory studies the mechanisms underlying the processes of learning and memory, at the molecular, cellular and systems level. Our current focus is on the immediate-early gene Arc, which plays an essential role in memory consolidation. We have shown that efficient Arc translation requires coincident activation of the NMDA receptor and fear/reward signaling pathways. We have localized Arc protein to the nucleus, where it associates with PML bodies, sites of epigenetic transcription regulation, and with Tip60, a histone-acetyltransferase implicated in Alzheimer’s disease, suggesting that Arc mediates formation of long term memories through epigenetic regulation of gene expression. A second project investigates how information is processed, encoded and stored in networks formed by neurons growing in vitro, using a combination of optogenetics and multi-electrode array recording techniques. These experiments have demonstrated that generic cortical microcircuits have fading and hidden memory processes, and are able to process complex spatio-temporal information. This optogenetic MEA platform allows us to investigate the molecular and physiological basis of disorders in memory, cognition, and perception. These projects are supported by an in silico drug development program which identifies small molecules with efficacy at therapeutic targets identified by our research program.

Past and Current Duke-NUS Research Students

Choo Min (Class of 2015)

Student Publications

NA
Vasudevan, Subhash PhD

Professor, Programme in Emerging Infectious Diseases, Duke-NUS Graduate Medical School

Contact: 6516 6718
Email: subhash.vasudevan@duke-nus.edu.sg
Website: -

Research Summary

The Vasudevan lab at Duke-NUS will work in the following research areas:

1. Therapeutics for emerging infectious diseases
2. Protein-protein and protein-RNA interactions (characterising the interactome of flaviviruses using yeast-two hybrid technology as well as biochemically using immuneprecipitation and other proteomics techniques).

Structure and function studies of multifunctional viral proteins in order to understand in precise detail the mechanism of action of processes catalysed by enzyme targets of disease causing viruses – this will ultimately help understand the mode of action of new drugs and also identify potential resistant mutants that could help to improve drug design.

Past and Current Duke-NUS Research Students

Tan Boon Hian (Class of 2014)
Wong Ziyang Dennis (Class of 2014)

Student Publications

Virshup, David MD

Professor and Programme Director, Programme in Cancer and Stem Cell Biology, Duke-NUS Graduate Medical School
Professor of Pediatrics, Duke University
Joint Professor, Department of Biochemistry, NUS
Adjunct Investigator, Institute of Medical Biology, A*STAR

Contact: 6516 6954
Email: david.virshup@duke-nus.edu.sg
Website: Google Scholar Profile

Research Summary

Wnt signaling is a highly conserved pathway important in stem cell maintenance, cell proliferation, cancer and development. The Virshup laboratory studies Wnt signaling pathways with an emphasis on Wnt secretion. We have developed novel, specific and potent drugs that prevent Wnt secretion by inhibiting the O-acyltransferase enzyme, PORCN. We are interested in understanding which patients will benefit from Wnt inhibitors, what happens to cancers treated with Wnt inhibitors, and what drugs might synergize with Wnt inhibitors. Techniques include molecular and genetic analysis, and cell culture and mouse based models.

Past and Current Duke-NUS Research Students

Tina Zhenwen Tan (Class of 2011)

Student Publications

Wang, Hongyan  MD

Associate Professor, Programme in Neuroscience and Behavioural Disorders, Duke-NUS Graduate Medical School
Associate Professor, Department of Physiology, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 6516 7740
Email: hongyan.wang@duke-nus.edu.sg
Website: -

Research Summary

The Hongyan laboratory is interested in the molecular mechanisms of neural stem cell self-renewal and differentiation. Recently, Drosophila melanogaster neural stem cells, larval brain neuroblasts, were emerged as an excellent model for studying stem cell self-renewal and differentiation. This lab is focused on identifying brain tumor suppressors and the underlying mechanisms by which they prevent tumor formation in larval brains. These works may ultimately contribute to better therapies for various types of cancer including human brain tumors. Dr. Wang is a receipt of Singapore National Academy of Science Young Scientist Award (2008) and National Research Foundation (NRF) Research Fellowship (2009). She is also an executive member of Stem Cell Society Singapore (SCSS). PhD students under her supervision were recipient of Swee Liew Wadsworth Award (Silver medal) in NUS in 2014, member of Elife Early Career Advisory Group and best oral presentation (basic research) award in SingHealth Duke-NUS Scientific Congress 2014.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Wang-Casey, Mei  MD, PhD

Assistant Professor, Programme in Cancer and Stem Cell Biology, Duke-NUS Graduate Medical School
Honorary Joint Associate Professor, Department of Biochemistry, Yong Loo Lin School of Medicine, National University Singapore

Contact: 6516 8608
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Website: ResearchGate Profile

Research Summary

The focus of the basic research aspect of the lab is to advance the understanding of the role(s) that specific prenylated proteins play in cellular signaling and cancer development. In this setting, inhibitors of prenylation serve as useful tools in identifying important players in cell signaling. We have found that inhibition of Icmt, the enzyme for the last step of prenylation modification, induced excessive autophagy and cell death, in addition to G1 cell cycle arrest. Suppression of autophagy rescues cancer cells from cell death, suggesting that autophagy induction by inhibiting Icmt promotes cancer cell death (Wang et al., J.Biol.Chem.2008 Jul 4; 283(27):18678-84). Since evading apoptosis is an important part of tumorigenesis, inducing cancer cell death through an alternative route such as autophagic cell death can be a novel approach therapeutically. Considerable effort in the lab is focused on the identification of the CAAX protein(s) through which the efficacy of Icmt inhibition is mediated by induction of autophagy and cell death.

The focus of the translational aspect of our research is to further advance the preclinical evaluation of potent and selective small molecule inhibitors of Icmt and one of the enzymes involved in the isoprenoid addition step, protein geranylgeranyltransferase I (GGTase-I), as anticancer agents. The scope of the research includes: (i) the investigation of the in vivo efficacy against proliferation and metastasis of these compounds using animal models; to this end, our studies have shown that cysmethynil has in vivo antiproliferative efficacies against multiple human cancers using a xenograft mouse model (Figure 3), (Wang et al, 2008; Wang et al., under review). (ii), the identification of new and better inhibitors in collaboration with our colleagues in NUS (SIN Pat. Appl. No. 200907728-0; manuscripts under review); and (iii), the investigation of the pharmacokinetics and ADME/Tox properties of these small molecule inhibitors (Wang et al., J Chromatogr B Analyt Technol Biomed Life Sci. 2009 Feb 15:877(5-6):553-7.).

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Wong, Hee Kit  MBBS(S’pore), MMED(Surg), FRCS(Glas), MCh(Orth) Liv., FAMS

Professor and Head, Department of Orthopaedic Surgery, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 6772 2002
Email: heekit_wong@nuhs.edu.sg
Website: -

Research Summary

Professor Wong’s research interests are in translational and clinical research. Prominent among his recent basic science studies is the identification and validation of reference markers for neuropathic pain, the biology and biomechanics of spinal fusion, pre-clinical application of architecturally optimized bioresorbable scaffolds as bone graft substitutes in spinal reconstructive surgery, and evaluation of carriers for stem cells and growth factors in spinal fusion. Prof Wong’s ongoing clinical studies are focused in the areas of adolescent spinal deformity, adult and complex spinal deformity surgery, and minimally invasive spinal surgery.

Past and Current Duke-NUS Research Students

Wang Ming (Class of 2013)

Student Publications

NA
Wong, Tien Yin  MBBS, MMED(Ophth), MPH, PHD, FRCSE, FRANZCO, FAMS

Provost’s Chair Professor
Vice Dean, Office of Clinical Sciences, Duke-NUS Graduate Medical School Singapore
Head, Academic Medicine Research Institute (AMRI), Duke-NUS Graduate Medical School Singapore
Medical Director, Singapore National Eye Centre
Senior Consultant, Medical Retinal Department, Singapore National Eye Centre
Senior Principal Clinician-Scientist, Singapore Eye Research Institute

Contact: 6222 7438
Email: tien_yin_wong@duke-nus.edu.sg
Website:

Research Summary
Diabetic retinopathy, age-related macular degeneration, retinal diseases, ocular imaging, and epidemiology of eye diseases.

Past and Current Duke-NUS Research Students
Ong Shin Yeu (Class of 2012)
Goh Kang Hao James (Class of 2016)

Student Publications

Research Summary

Our laboratory has had a long-standing interest in transcriptional regulation by thyroid hormone receptors (TRs) and other nuclear hormone receptors. In particular, we are interested in the recruitment of specific co-factors to thyroid hormone response elements (TREs) and concomitant changes in histone acetylation and methylation in the promoters of individual target genes and the entire genome. Recently, we observed that negative regulation of the glycoprotein hormone α subunit target gene by thyroid hormone surprisingly involves histone acetylation at specific sites. cAMP activates transcription via the same promoter region but involves histone acetylation at other sites. Additionally, we have observed that positive regulation of various target genes by thyroid hormone involves different histone modifications. We currently are using siRNA as well as histone acetyltransferase (HAT) and histone deacetylase (HDAC) inhibitors to determine the critical modifications that determine negative and positive regulation of target genes. We also plan to use ChIP-on-chip and ChIP seq technology to determine the prevalence of such changes across the genome. These studies will be extended to ligand-mediated regulation of other nuclear hormone receptors, including PPAR, LXR, and FXR which play important roles in metabolism and cholesterol regulation.

We also are interested in the cell signaling and cell cycle regulation by PI-3 kinase regulatory subunits, particularly p55 PI3K. Our recent studies have shown that the amino-terminus of p55PI3K (N24) interacts with Rb to regulate cell cycle progression. Using adenovirus expressing N24 and HIV-TAT fusion proteins that contain N24, we have found that N24 peptide inhibits cell proliferation in a wide range of cancer cell lines, and blocks tumor growth in several in vivo cancer models. We currently are studying the mechanisms of N24 effects on cell proliferation, tumor growth, metastasis, and cell redifferentiation. We also plan to screen chemical libraries to find peptidomimetics that may be useful in the treatment of human cancer.

Past and Current Duke-NUS Research Students

Aw Kang Lie Darius (Class of 2014)
Sun Jingfeng (Class of 2016)

Student Publications


Yeo, Cheo Lian  MBBS, MMed (Paediatrics), FAMS

Senior Consultant, Department of Child Development, KK Women’s & Children’s Hospital
Senior Lecturer, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 6321 4597
Email: yeo.cheo.lian@sgh.com.sg
Website: -

Research Summary

Dr Yeo conducts clinical research on high risk infants, in particular very low birth weight infants focusing mainly on effects of therapies and outcome. She is working on developing a neonatal network database which will facilitate performance tracking and improvement initiatives for care of high risk newborns. Dr Yeo is Program Director of the National Neonatal Resuscitation Program, an initiative developed to improve acute care of newborns. She has conducted funded projects on immediate and long term outcome of very low birth weight infants with varying medical challenges. She is currently involved as site PI of a NMRC funded project on Autologous Cord Blood Cells for Hypoxic ischaemic Encephalopathy - Phase I Study of Feasibility and Safety. Her recent collaborative effort on Reducing Noise in the Neonatal Intensive Care Unit – A Developmental Care Intervention was awarded Best Clinical Practice Improvement Project of the Year, 2013 at SingHealth Service Quality Award.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA

Adjunct Associate Professor, Duke-NUS Graduate Medical School Singapore
Director, Cardiology Senior Residency Programme, SingHealth Duke-NUS Cardiovascular Academic Programme
Senior Consultant, Department of Cardiology, National Heart Centre Singapore
Scientific Lead, Databases and Biostatistics Core, National Heart Research Institute Singapore
Clinical Senior Lecturer, Yong Loo Lin Medical School, National University of Singapore

Contact: 6436 7543
Email: yeo.khung.keong@nhcs.com.sg
Website:

Research Summary

Dr Yeo conducts research in 2 main areas. The first is to explore long-term outcomes (clinical, cost-effectiveness, quality-of-care) in patients with coronary artery disease and/or heart failure. In this area, he has established a multicenter collaborative effort involving all restructured hospitals in Singapore, which will allow longitudinal study across a large number of patients in Singapore. Early analysis has explored the role of age, gender, race, and compliance to medical therapy in influencing long-term outcomes in patients who undergo percutaneous coronary intervention. He has published a number of outcomes research papers related to this field. He is also interested in percutaneous therapies for mitral regurgitation. This includes the use of novel therapies such as the MitraClip and the Carillon for the treatment of severe mitral regurgitation. He has co-edited an Atlas on the MitraClip therapy and is leading an Asia-Pacific Registry involving Singapore, Malaysia, Hong Kong and Australia.

Past and Current Duke-NUS Research Students

Shashendran Aponso (Class of 2015)
Freda Jawan (Class of 2016)

Student Publications

NA
Yeoh, Allen Eng Juh  MBBS, Mmed (Pediatrics)

Senior Consultant, Department of Paediatrics, National University Hospital

Associate Professor, Department of Paediatrics, Yong Loo Lin School of Medicine, National University of Singapore

Viva-Goh Foundation Associate Professor, Paediatric Oncology, National University of Singapore

Contact: 6772 4406
Email: paeyej@nus.edu.sg
Website:

Research Summary

Assoc Professor Allen Yeoh's research interests are in the treatment and biology of childhood haematologic malignancies. He is currently the principal investigator of the multi-centre Malaysia-Singapore ALL and AML trials competitively funded by NMRC and A*STAR/Singapore Cancer Syndicate. Currently these trials have been highly successful with >80% and >60% projected cure. He is the first Singapore doctor to receive the American Society of Hematology Merit Award for his pioneering work in gene expression profiling in leukaemia. This work was one of the highest cited articles in this field for 2003.

He is also actively involved in genome wide association studies using cutting edge chip technologies from Affymetrix and Illumina. He has profiled more than 140 children with ALL on gene expression profiling using Affymetrix HG-U133 Plus2.0 as well as genotyping SNPs on Illumina Human1M-Duo chips. His aim is to discover biomarkers for treatment response in the Malaysia-Singapore studies so as to improve cure rate.

Past and Current Duke-NUS Research Students

Cecilia Kwok Sze Nga (Class of 2011)
Sharon Poh Shuxian (Class of 2013)
Wong Hai Liang Marc (Class of 2015)

Student Publications


Yong, Eu Leong  MBBS (S'pore), MMED (O&G, S'pore), MRCOG, PhD (S'pore)

Head and Senior Consultant, Department of Obstetrics and Gynaecology, National University Hospital

Contact: 6772 4285
Email: obghead@nus.edu.sg
Website: -

Research Summary

Steroid/nuclear receptors and human disease, and Herbal Drug discovery programme.

Past and Current Duke-NUS Research Students

Yu Dawen (Class of 2016)

Student Publications

NA
Zhong, Liang  MD

Adjunct Assistant Professor, Programme in Cardiovascular and Metabolic Disorders, Duke-NUS Graduate Medical School Singapore
Scientific Lead, National Heart Research Institute of Singapore, National Heart Centre Singapore
Adjunct Professor, Medical College, Wuhan University of Science and Technology

Contact: 6704 2237
Email: zhong.liang@duke-nus.edu.sg / zhong.liang@nhcs.com.sg
Website: Google Scholar Profile

Research Summary

Dr Zhong conducts translational research on i) heart failure patients with a focus on a new imaging approach (curvedness-based imaging (CBI)); ii) pulmonary hypertension patients with a focus on bi-ventricular structure and myocardial mechanics via combining invasive catheterization and advanced cardiac imaging (i.e., CMR); and iii) validation of sweep surface area velocity as ventricular diastolic function from CMR against invasive ventricular filling pressure in animal model and human patients. His recent work has entailed the evaluation of ventricular structure and regional systolic and diastolic function in heart failure patients. His recent research evaluated the clinical value of combining computational modeling and hemodynamics to better quantify bi-ventricular structure, myocardial mechanics and function. Dr Zhong has been awarded over 6 NMRC grants and A*STAR grants, and he has authored over 8 patents, 50 papers, 10 book chapters and over 100 abstracts/articles in prestigious international conferences.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Zhou, Juan Helen  PhD
Assistant Professor, Programme in Neuroscience and Behavioural Disorders, Duke-NUS Graduate Medical School Singapore
Principal Investigator, Clinical Imaging Research Center, A*STAR

Contact: 6601 2392
Email: helen.zhou@duke-nus.edu.sg
Website: https://sites.google.com/site/mneuroimaginglab/home

Research Summary

Our lab studies the human neural bases of social-emotion, cognition, and memory functions and the associated vulnerability patterns in neuropsychiatric disorders, mainly focusing on neurodegenerative diseases (e.g. Alzheimer's disease and frontotemporal dementia), attention deficit hyperactivity disorder, and Schizophrenia. Multimodal neuroimaging and psychophysical techniques are employed, including magnetic resonance imaging (MRI), functional MRI, diffusion tensor imaging, and electroencephalograph. We are interested in examining the network-level structural and functional brain connectivity in vivo by statistical or computational methods. Based on the network-based neurodegeneration hypothesis, we examine the abnormal brain networks in subjects with dementia or mild cognitive impairment. Ongoing projects are focusing on subjects at preclinical stages as well as the effect of intervention techniques using multimodal neuroimaging and neuropsychological measures. Our long-term goal is to investigate the interactions among brain network dynamics, behaviours, diseases, and genotypes to develop non-invasive biomarkers for differential diagnosis, disease monitoring, and treatment design.

Past and Current Duke-NUS Research Students

Thomas Adi Kurnia Susanto (Class of 2014)

Student Publications

Approved Research Co-Mentors
Ang, Seng Bin  MBBS, MMED (Family Medicine)(S'pore), Dip (Family Med)(NUS), Dip OM (S'pore), Dip (Family Practice Dermatology)(NUS), NCMP, MCFP (S), FCFP (S)

Adjunct Assistant Professor, Duke-NUS Graduate Medical School Singapore
Head & Consultant, Family Medicine Service, KK Women’s and Children’s Hospital
Head, Menopause Unit, KK Women’s and Children’s Hospital
Associate Program Director, Family Medicine, SingHealth Residency Program
Clinical Physician Faculty Member, Obstetrics & Gynaecology, SingHealth Residency Program

Contact:
Email: ang.seng.bin@kkh.com.sg
Website:

Research Summary

My research interest includes devices, clinical as well as health services research. Projects in the coming year includes a specially manufactured garment for use in children with severe eczema, osteoporosis prevalence study in the community, Melasma prevalence and progression in pregnant women, Sexuality issues in the Singapore Woman, etc.

Past and Current Duke-NUS Research Students
NA

Student Publications
NA
Cheung, Carol Yim Lui  PhD

Assistant Professor, Centre for Quantitative Medicine, Duke-NUS Graduate Medical School Singapore
Research Scientist and Head, Singapore Advanced Imaging Lab on Ocular Research (SAILOR), Singapore Eye Research Institute
Adjunct Assistant Professor, Department of Ophthalmology, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 
Email: carol.cheung.y.l@seri.com.sg
Website: ResearchGate Profile

Research Summary

Dr. Cheung is currently a Research Scientist with a focus on ocular imaging as a biological approach to study human diseases and population-based studies on eye diseases at the Singapore Eye Research Institute (SERI). Her main research interest is the development and application of advanced ocular imaging analysis which can impact on important translational clinical outcomes. Her recent work entails developing and validating new diagnostic modalities for prediction of eye and cardio-metabolic diseases using novel imaging techniques. Her research on ocular imaging may improve the understanding of early disease changes, and may allow the prediction, early detection and diagnosis of eye, cardiovascular and metabolic diseases via ocular imaging, leading to a better targeted and more effective screening, independent of conventional risk factors and current diagnostic modalities.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Chew, Kelvin Tai Loon  *MBBCh (Ireland), MSpMed (Australia)*

Director & Senior Consultant, Changi Sports Medicine Centre, Changi General Hospital  
Senior Consultant, Singapore Sports Medicine Centre, Novena Medical Centre  
Clinical Lecturer, Orthopaedic Surgery, Yong Loo Lin School of Medicine, National University of Singapore  
Specialist Physician Faculty, SingHealth Family Medicine Residency

**Contact:** 6850 3502  
**Email:** kelvin_chew@cgh.com.sg  
**Website:**

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**Research Summary**

Dr Chew's areas of research specialization in Sports Medicine are: sports injury biomechanics, musculoskeletal diagnostics with special interest in ultrasound diagnostics, and efficacy of clinical therapeutics in musculoskeletal medicine. Current research projects at Changi Sports Medicine Centre that medical students can be involved in relate to the ultrasound evaluation of tendon disorders in athletes as well as research on event medical coverage such as Formula 1 or mixed martial arts international competition injury prevention and injury rates.

**Past and Current Duke-NUS Research Students**

Tao Chan Eric (Class of 2016)

**Student Publications**

NA
Chew, Sophia Tsong Huey  MBBS, MMed (Anaes), FANZCA, FAMS

Adjunct Assistant Professor, Programme in Cardiovascular and Metabolic Disorders, Duke-NUS Graduate Medical School
Senior Consultant, Department of Anaesthesiology, Singapore General Hospital

Contact: 6321 4220
Email: gancth@sgh.com.sg
Website: ResearchGate Profile

Research Summary

Ethnicity and acute kidney injury after cardiac surgery in the Asian population, genetic and biochemical markers of injury and long term risk of ESRD.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Chow, Wan Cheng

Senior Consultant, Department of Gastroenterology & Hepatology, Singapore General Hospital
Chairman, Division of Medicine, Singapore General Hospital

Contact: 6326 6199
Email: chow.wan.cheng@sgh.com.sg
Website: -

Research Summary

Various clinical trials in treatment of chronic hepatitis B and C, including phase 1 trials in therapeutic vaccines.

Past and Current Duke-NUS Research Students
Lin Huixin Sarah (Class of 2013; Co-Mentor)

Student Publications

NA
Goh, Brian Kim Poh  MBBS, MRCSEd, MMed (Surg), MSc, FRCSEd, FAMS

Adjunct Associate Professor, Duke-NUS Graduate Medical School Singapore
Senior Consultant, Department of HPB and Transplant Surgery, Singapore General Hospital

Contact: -
Email: brian.goh@sgh.com.sg
Website: -

Research Summary

Presently, my research is focused mainly on clinical outcomes after pancreatic and liver resections and oncological outcomes of liver and pancreatic malignancies. I have published extensively in this field and have numerous ongoing (> 10) projects. I perform mainly clinical cohort studies and systematic reviews in this field and have mentored several surgical trainees and medical students in the past.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Hwang, Nian Chih  MBBS, FFARCSI, FAMS

Contact: 6321 4220
Email: hwang.nian.chih@sgh.com.sg
Website: -

Research Summary

We maintain a cardiac database of our patients from which the data can be analyzed for research purposes. My past and present research interests in cardiac surgery and anaesthesia include the following:

1. Tranexamic acid (dosage and causal relationship with postoperative seizures)
2. Cardioprotection
3. Dexmedetomidine for cardiac surgery
4. Intraoperative transesophageal echocardiography
5. Peripheral nerve injuries and patient safety
6. Variability of glycaemic control during cardiac surgery and postoperative wound infection, morbidity and mortality
7. Effect of various infusates and activated clotting time
8. Effect of angiotensin converting enzyme inhibitor on the production of bradykinin during cardiopulmonary bypass
9. Heparin resistance
10. Early extubation after cardiac surgery
11. Sevoflurane as the induction agent for cardiac surgery

My past and present research interests in other areas of anaesthesia practice include the following:

1. Bridging concepts of acupuncture with neurophysiology
2. Analgesia and reducing the incidence of postoperative emergence excitation
3. Pre-operative fasting
4. Difficult airway
5. Postoperative nausea and vomiting
6. Health care cost in anaesthesia
7. Depth of anaesthesia
8. Induction dosage of propofol for local population
9. Neuromuscular blockers
10. Safety in central venous cannulation

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Lee, Jan Hau  
*MBBS, MRCPCH (UK), MCI*

Adjunct Assistant Professor, Duke-NUS Graduate Medical School Singapore  
Consultant, Children's Intensive Care Unit, KK Women's and Children's Hospital

**Contact:** 6394 1778  
**Email:** lee.jan.hau@kkh.com.sg  
**Website:** [Google Scholar Profile](#)

**Research Summary**

Clinical research in pediatric critical care. Research interest mainly in acute respiratory distress syndrome, utilization of database and systematic reviews involving clinical outcomes in the pediatric intensive care unit.

**Past and Current Duke-NUS Research Students**

NA

**Student Publications**

NA
Lek, Ngee  FRCPCH, MBBS (Hons), MSc, BSc (Hons)

Adjunct Assistant Professor, Duke-NUS Graduate Medical School Singapore
Consultant, Paediatric Endocrinology and Diabetes, KK Women’s and Children’s Hospital

Contact: 6394 1133
Email: lek.ngee@kkh.com.sg
Website: -

Research Summary

Paediatrics, child health, growth and development; paediatric endocrinology and diabetes; developmental origins of health and disease.

Past and Current Duke-NUS Research Students

Zhou Yi (Class of 2015; Co-Mentor)
Quek Jia Ling Jovina (Class of 2016; Co-Mentor)

Student Publications

NA
Lie, Denny Tjiauw Tjoen  MBBS, FRCS (Edin), FAMS

Senior Consultant, Department of Orthopaedic Surgery, Singapore General Hospital

Contact: -
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Website: -

Research Summary

- Clinical Outcome studies of the surgeries of the knees, shoulders and ankles
- Shoulder kinematics, to map out kinematics in daily activities and thus achieve a better understanding what is normal arc of motion and what constitutes abnormal motion. This has led to a patent designed rig.
- Shoulder tendon research to understand strain in the tendons and how surgery can restore this strain pattern
- Knee kinematics to measure rotation in-vivo, which I believe is the instability the sports patients experience. This would lead to better understanding of knee instability, improved knee surgeries and a new scoring system.
- Gap formation in tendon repair, to validate the strength of current repair techniques

Past and Current Duke-NUS Research Students

Rahul Jawa (Class of 2016)

Student Publications

NA
Ozdemir, Semra PhD

Assistant Professor, Programme in Health Services and Systems Research, Duke-NUS Graduate Medical School Singapore

Contact: 6601 3575
Email: semra.ozdemir@duke-nus.edu.sg
Website:

Research Summary

Dr. Semra Ozdemir's main research areas are health economics and medical decision making. She has extensive experience in conducting survey-research on understanding patient or caregiver preferences for treatment alternatives, and physician treatment preferences for their patients. She has developed numerous discrete-choice experiment survey instruments in a variety of therapeutic areas, including cancer, psoriasis, Crohn's disease, multiple sclerosis and bipolar disorder. She has conducted research on improving the use of discrete-choice experiment methods in the health domain. Her research interests include using behavioral economics to understand how people make health-related decisions, and also to design and evaluate interventions to improve public health. She is also interested in understanding patient and caregiver preferences for chronic disease, end-of-life and palliative care. Dr. Ozdemir worked as a research health economist at RTI International, NC, USA for four years. She received her Ph.D. from the Gillings School of Global Public Health at the University of North Carolina at Chapel Hill. Her research has been published in both economics and medical journals, including the Journal of Health Economics, Health Economics, Value in Health, Risk Analysis, Gastroenterology, and Medical Care.

Research Interests: health economics, medical decision making, behavioral economics, stated-preference methods, end-of-life and palliative care, childhood health, and obesity.

Past and Current Duke-NUS Research Students

Andalib Hossain (Class of 2016; Co-mentor)

Student Publications

NA
Yang, Yong *PhD*

Adjunct Assistant Professor, Centre for Quantitative Medicine, Duke-NUS Graduate Medical School Singapore

Head, Department of Epidemiology, Medical Board, Singapore General Hospital

**Contact:** 6326 6230  
**Email:** yang.yong@sgh.com.sg  
**Website:** -

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**Research Summary**

Dr Yang Yong conducts hospital epidemiological and clinical research on chronic diseases and infection disease with the usage of hospital discharge database. His recent work has entailed “The effect of comorbidity and age on hospital mortality and length of stay in patients with sepsis”, “Respiratory dysfunction in sepsis patients – the protective effect of diabetes mellitus” and “Bringing Generalists Into the Hospital: Outcomes of a Family Medicine Hospitalists Model in Singapore”. He is developing a comprehensive hospital discharge database, which may be used to conduct epidemiological and clinical research in various fields. Dr Yang has authored over 20 papers in outstanding international journals.

**Past and Current Duke-NUS Research Students**

NA

**Student Publications**

NA
Yeo, George Seow Heong  MBBS, FRCOG, FAMS

Adjunct Professor, Duke-NUS Graduate Medical School Singapore
Chief of Obstetrics, Division of Obstetrics & Gynaecology, KK Women’s & Children’s Hospital
Director, Antenatal Diagnostic Centre, KK Women’s & Children’s Hospital
Head, Obstetric Ultrasound & Prenatal Diagnosis Unit, KK Women’s & Children’s Hospital
Associate Professor, Yong Loo Lin School of Medicine, National University of Singapore

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Website: Google Scholar Profile

Research Summary

My current and future research is as follows:

1. Studying maternal demographic, anthropometric, socio-economic, obstetric, biochemical, and fetal data to understand and predict adverse pregnancy outcomes. This is achieved by analysing research data generated from existing studies with reliable research methodologies and linked to readily available service data
2. Special interest in fetal biometry and fetal growth restriction
3. Using single-cell technology to identify novel biomarkers exclusively expressed on fetal cells
4. Understanding the contribution of Down syndrome to Alzheimer’s disease and identifying possible targets for treatment
5. Studying circulating cell-free fetal DNA for non-invasive prenatal diagnosis of chromosomal abnormalities and early prediction of pre-eclampsia
6. Overseeing database design, data capture and quality control of several antenatal, perinatal and postnatal databases that are supporting the current key clinical services.

Past and Current Duke-NUS Research Students

NA

Student Publications

NA
Yu, Sidney Wing Kwong  PhD

Senior Principal Research Scientist, Department of Nuclear Medicine & PET, Singapore General Hospital
Adjunct Principal Investigator, National Cancer Centre Singapore

Contact: 6326 5666
Email: sidney.yu.w.k@sgh.com.sg
Website: -

Research Summary

I specialized in translational research in nuclear medicine, particularly in imaging and internal radiation therapy of HCC. This includes

- Radiolabeling of a chemicals/protein/peptide/antibody
  Radiolabeling refers to the incorporation of a radioisotopes onto a molecule without changing its physiochemical properties. This will employ different organic chemistry and coordination chemistry techniques, but with the constraint of radiation hazard and radiation decay.

- Imaging of radiolabeled molecules in animal models
  Non-invasive imaging allows a longitudinal study of radiolabeled molecules In-vivo over time. Imaging provides static distribution pattern of radiolabeled molecules, and yields dynamic time-activity curve from which various pharmacokinetic data can be derived.

- Calculation of radiation dosage to tumors

- Radiation exposure is an important aspect in imaging. It is most desired that the exposure to whole body is as low as possible, but the exposure to tumor be as high as possible, hence Careful planning and accurate dosimetry calculation is essential.

Past and Current Duke-NUS Research Students

Chin Fu Wen, Kenneth (Class of 2016)

Student Publications

NA